

distinctions

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EDITOR'S COLUMN

A Sea Gateway

As this issue of *Distinctions* goes to press, many members of our community—students, staff, and faculty—continue to suffer from the effects of Hurricane Sandy. Some of my students still have no heat or power. Many have lost everything they owned.

I have been so struck by people's resilience in the last three weeks. Like my colleague who showed up to work two weeks ago with only her purse and the sleeping bag someone had given her. Or the Building and Grounds guy who told me he had logged 160 hours of overtime, just in the first week after the storm. Or my student who had gone with a friend to check on the friend's grandmother only to find her floating in her basement, but who was in class, ready to get back to all of the various work that needed to be done.

In this issue, there is a piece on the seaside community of Sea Gate, on the opposite peninsula from the one on which Kingsborough sits. The piece focuses on the history of the area, "then and now." But the "now" is already a memory. For the now of a few weeks ago doesn't exist in communities like Sea Gate.

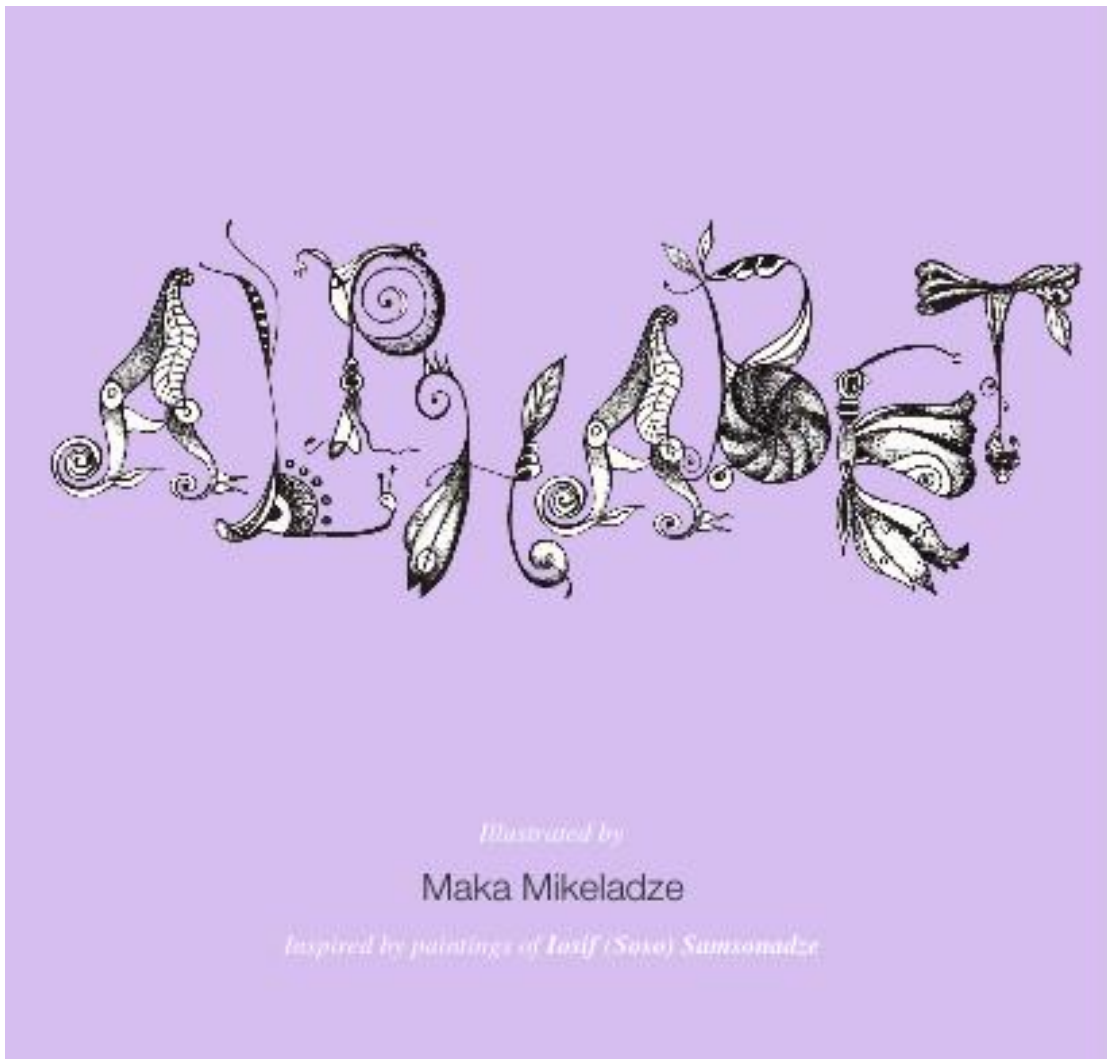
New York City is a gateway to the sea, and as such it will have to contend with many more such storms in the future. In my last column, I focused on the recent visit from environmental activist Bill McKibben whose last book emphasizes that such climatic events are becoming more frequent, more severe, and in places that don't normally see them. As global warming continues, it is my belief that such trends will continue.

I do not think that we can simply build barriers against the sea to protect ourselves. That is treating the symptom, without acknowledging that we are the cause of nature's backlash. The students included in this issue of our honors journal show that they have the courage to confront the behaviors that perpetuate such decline. And I am confident that their efforts—for the greater good of us all—will succeed.

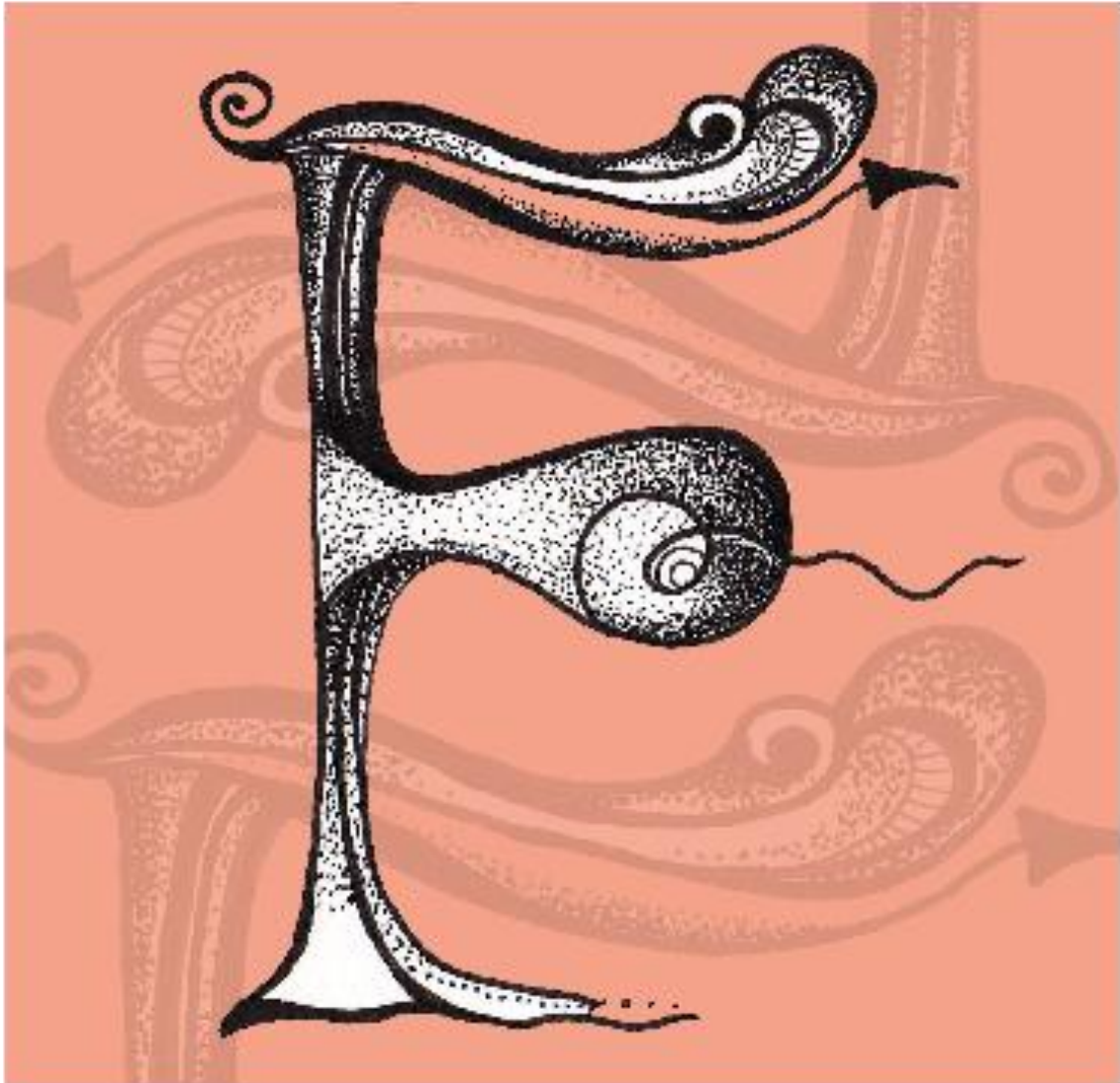
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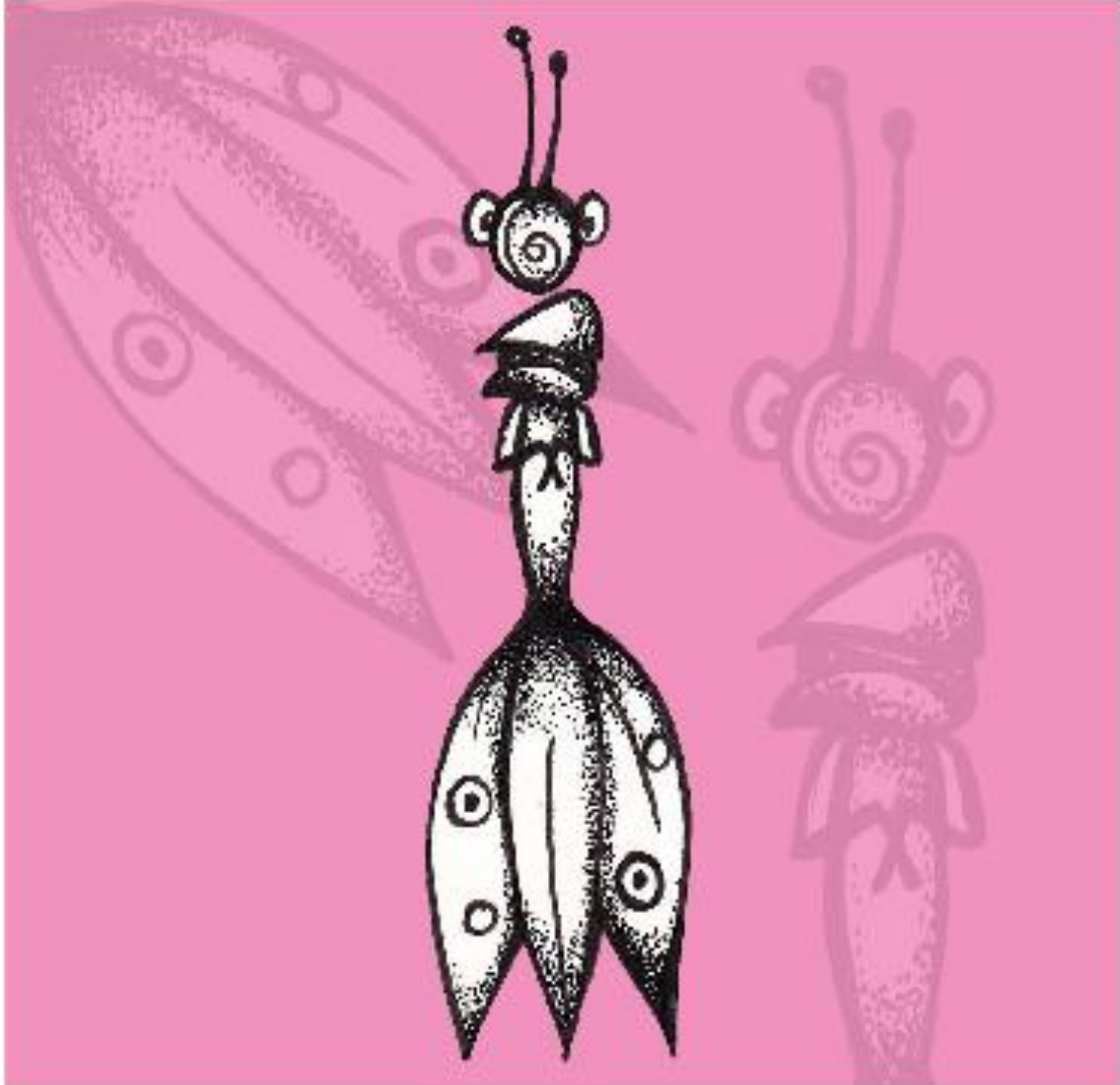
MAKA MIKELADZE

A Georgian Alphabet—Inspired by the Paintings of Iosif (Soso) Samsonadze¹



¹ Completed under the mentorship of Prof. Valerie Sokolova for ART 40: Designing with Type.













ALEXANDRA FILONENKO

How Does It Feel When a Pregnancy is Ectopic?: The Psychosocial Aspect of Managing Extra-uterine Pregnancy¹

Hope springs eternal in the human breast.—Alexander Pope

In spite of all the notable advances in diagnostics and medical technology, ectopic pregnancy is still a source of serious maternal morbidity and mortality worldwide, especially in countries with poor prenatal care. Researchers are looking for ways to improve the outcomes for future mothers, but there are psychosocial implications that oftentimes remain underestimated and hence unaddressed. The profound grief, anger and depression that a woman experiences might be very severe for many years and ultimately life-altering; it can adversely affect medical treatment and change the quality of life of a woman and all her family members.

As with any illness, the nature of the disease should be fully understood before all consequences can be managed. But pregnancy is very special: it is not a disease at first place, but a natural state of the body that a majority of people look at with excitement and awe. Becoming pregnant and awaiting a baby is a very happy and somewhat sacred event, and when a woman learns her pregnancy is ectopic it has implications far beyond being a physical abnormality for her. Some women say it initially feels like a part of them is going to die; later comprehension of the whole situation often brings a feeling that life is coming to an abrupt stop. It is very hard for a woman to accept that all the dreams and plans that she and her family have been making about the future may not come true.

An *ectopic pregnancy*, or *eccysis*, is a complication of pregnancy in which the embryo implants outside the uterine cavity. It is a potential medical emergency, and, if not treated properly, can lead to death.

With rare exceptions, ectopic pregnancies are not viable. Furthermore, they are dangerous for the mother, since [they carry a risk of] internal hemorrhage, a life-threatening complication. Most ectopic pregnancies occur in the Fallopian tube (so-called tubal pregnancies), but implantation can also occur in the cervix, ovaries, and abdomen. Early symptoms of ectopic pregnancy are either absent or subtle. Clinical presentation occurs at a mean of 7.2 weeks after the last normal menstrual period, with a range of 5 to 8 weeks. Symptoms include pain in the lower abdomen (which may be confused with stomach pain or a strong cramp), inflammation, pain while urinating, and pain while having a bowel movement. Patients with a late ectopic pregnancy (8 to 9 weeks) typically experience pain and bleeding.

¹ Completed under the mentorship of Prof. Barbara Gattullo for NUR 19: Family-Centered Maternity Nursing.

When tubal, a pregnancy can grow in the fimbrial end (5% of all ectopics), the ampullary section (80%), the isthmus (12%), and the cornual and interstitial part of the tube (2%). The rate of mortality from *tubal* pregnancies at the isthmus or within the uterus (interstitial pregnancy) is highest as there is increased vascularity that is more likely to result in sudden major internal hemorrhage. Numerous published reviews support the hypothesis that tubal ectopic pregnancy is caused by a combination of retention of the embryo within the fallopian tube due to impaired embryo-tubal transport, and alterations in the tubal environment allowing early implantation to occur. The worldwide incidence of ectopic pregnancy is approximately 1 out of every 60 pregnancies, or 2%, with the number increasing each year; in North America, ectopic pregnancy occurs at a rate of 19.7 cases per 1000 pregnancies. Detection of ectopic pregnancy in early gestation has been possible mainly due to enhanced diagnostic capabilities.

Attachment Was Formed

In spite of all medical advances, the way parents feel after the loss of a pregnancy has not changed over the years. Profound grief and depression are usually the first and most widely understood reactions to the loss, yet the other emotions a woman experiences may be more subtle and not obvious enough for people around to notice. Since detection of an ectopic pregnancy usually occurs during first trimester, the common misconception is that mother did not have enough time “to get to love” the child. However, researchers believe that the women's grief would not have been possible if they had not developed a bond with the infant during pregnancy. In addition, a woman experiences multiple physical changes in the early stages of a pregnancy research data supports the fact that attachment does form. The level of reproductive hormones in the circulation increases greatly, the uterus develops a thick lining to support the growing fetus, and breasts enlarge preparing for feeding. The body and psyche gear up for motherhood; therefore, when a pregnancy is interrupted, a woman is left in a state of physical and emotional readiness for a baby that will never be. (1)

Another contributor to emotional reaction is that a woman looks at the early pregnancy as part of herself and when it is lost, there is an emptiness, searching and incompleteness feeling. (3) At the same time, the grief associated with a miscarriage is not just about what is lost now but also about what could have been. Although the child was still developing, an attachment forms; very often there is a concept of who and how that child will be within the mother's mind. Women mourning a pregnancy loss often have a clear picture of their lost child - something that later will assist in the grieving process. The “imagined” child has already become a psychological and emotional reality and its loss impacts profoundly. (2)

Grieving Process

After a woman loses her pregnancy, the grief that follows can seem unbearable; a woman not only loses the pregnancy but also the certainty that she can have another successful pregnancy. Grieving is a long process that, according to Dr. Elisabeth Kubler-Ross, has certain stages. Sometimes people get stuck in one of the first four stages, and their lives can be very difficult until they move to the fifth stage – acceptance. Let us consider grieving process in greater detail.

Five Stages of Grief

1. Denial and Isolation. At first a woman tend to deny that the loss has taken place, and may withdraw from her usual social contacts. Reports of a feeling of disbelief about what happened are common. Also, tension and conflict may arise in a woman's relationship with her partner after a pregnancy is lost because of the different degrees of bonding typical for men and women. The emotional attachment of the father tends to lag behind that of the mother. Hence the mother seems to experience a greater degree of grief that lasts longer because of her deeper attachment. Men all too often throw themselves into work in order to take their minds off their own grief and to avoid feelings of helplessness in the face of their partner's pain.

For some women this apparent lack of grief can lead to feelings of isolation and bitterness, causing problems in the relationship. (1)

2. *Anger.* The grieving woman may then be furious at the entire world because of the loss of her pregnancy. She may be angry with herself for letting it take place, even if, realistically, nothing could have stopped it.

Parents expect that modern medicine can fix almost anything, yet the rate of first trimester miscarriage is approximately the same as it was 50 years ago. The grieving woman may be concerned that she or others may not have done enough to prevent the miscarriage. This may be quite unfounded but is part of her trying to find an answer - a reason - for the loss. She may be dissatisfied that there is no apparent reason for the miscarriage and no definite answer or reassurance against the possibility of it happening again. Her search for knowledge needs to be understood as an expression of her grief, frustration and helplessness. Many women also acknowledge “misdirecting the blame and anger” at others - the woman’s focus is still centered on the lost baby for a time and she becomes very sensitive to those around her who either have young babies or who are pregnant. She may find it difficult to show enthusiasm for another couple’s delight in their baby. Something as simple as shopping may become very difficult, as everywhere she turns there are baby products, babies in advertising or other mothers with their babies and children. (1)

3. *Bargaining.* The grieving woman may make bargains with God, her doctor, or herself, asking, “If I do this, will you take away the loss?” The woman is seeking the reason for her loss, and is exploring what can be done to ensure the loss will not happen again in the future. During this “bargaining” time she may undergo various medical procedures, and if the treatment works well it may result in a full-term pregnancy

4. *Depression.* A woman can experience depression from losing a single pregnancy, but especially if she keeps losing pregnancies after trying many times and undergoing treatments. Feelings of numbness, sadness and frustration characterize the depression a woman may experience. Depression is a serious medical condition and requires the attention of professionals. A person with major depression has strong feelings of worthlessness and persistent suicidal thoughts. Specific symptoms that require medical intervention include terminal insomnia, significant physical listlessness or agitation, not eating, not bathing, inability to work or care for children, and drug or alcohol abuse or significant increase in use.

5. *Acceptance.* This occurs when the anger, sadness and mourning have tapered off, and the person simply accepts the situation as it is.. However, it is very hard to accept the reality of a lost pregnancy. Some women report that even after decades their feelings are still fresh like, it happened just yesterday. The public needs to be aware of all the emotions a woman goes through, because even well-meant but indelicately-said words can hurt her tremendously. People should be gentle, attentive and understanding when discussing the matter with a woman who lost a pregnancy. Education of the public should help to eliminate misconceptions that are common and will make her experience less painful.

Strategies to Help

Because of the suddenness and urgency associated with miscarriage, there is often little time to prepare for the loss and its emotional impact. Many women report a sense of chaos - on the one hand everything happens so quickly and yet, at the same time, the world stands still for them. For hospital staff coping with the demands of a busy day there may be little time to offer the mother or parents what they need most at this time - empathy, explanation, time and support.

Women are usually discharged quickly from the hospital and often go home in a state of shock. Many are confused, searching for answers and barely able to believe they are not still pregnant. Often external pressures dictate that the grief be put on hold for some time. What can often follow is a flood of grief later, which hits unexpectedly.

Anxiety can be high, particularly about future pregnancies. Some will struggle alone with their feelings and reactions, not sure how they should be feeling or wondering whether what they are feeling is “normal”. Many are hesitant to disclose these feelings and to ask questions. It is important to have all a woman’s concerns addressed, to let her vent her feelings and not suppress emotions. It is helpful to write down any queries or concerns before seeing a doctor at a follow up visit. Counseling may help to stabilize feelings and reactions to the loss.

Counseling is an umbrella term for a number of “talk” therapies. It consists of a counselor seeing a client in a private and confidential setting to explore a difficulty the client is having, distress she may be experiencing, or perhaps her dissatisfaction with life or loss of a sense of direction and purpose. It is always at the request of the client as no one can properly be ‘sent’ for counseling. By listening attentively and patiently the counselor can begin to perceive the difficulties from the client’s point of view and can help them to see things more clearly, possibly from a different perspective. Counseling is a way of enabling choice or change and of reducing confusion. It does not involve giving advice or directing a client to take a particular course of action.

In counseling sessions the client can explore various aspects of her life and feelings, talking about them freely and openly in a way that is rarely possible with friends or family. Bottled-up feelings such as anger, anxiety, grief and embarrassment can become very intense and counseling offers an opportunity to explore them, with the possibility of making them easier to understand. The counselor will encourage the expression of feelings and, as a result of their training, will be able to reflect on the client’s problems. Many women say that friends and family members oftentimes expect them to “forget” the lost child after certain time, and move on with life. But since an attachment was formed, it is very hard, if impossible, to forget her child. The lost child is indeed part of the family and it is much healthier to do something to help recognize and mourn the loss. Planning and holding a ritual to mark the life and loss of a child can be a very productive and appropriate thing to do. Parents need to be encouraged to be creative in doing this, to make a ceremony that is meaningful for them. Naming the child helps the parents acknowledge the reality of the lost child. Many parents do know their child’s gender identity but if they do not they may like to choose a name that can be assigned to either sex. The planting of a tree or shrub can serve as a living memorial to the child.(1)

Ectopic pregnancy is challenging and life-altering, and it is our duty to remain compassionate and sensitive for the women who have experienced it.

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SHAWNTEZ LYMAN

Slavery's Gift to Literature: The African American¹

When W. E. B. Dubois published *The Souls of Black Folk* in 1903, it served the purpose of explaining to the world, as well as African Americans, the complex nature of the African American experience up until that point. This achievement allowed African Americans to understand themselves better and to strive for equality and prosperity. Dubois introduced the concept of double consciousness in African Americans' experience, defining it as, "this sense of always looking at one's self through the eyes of others" (Dubois 615). This twoness is identifiable in the writings of Phillis Wheatley, Harriet Jacobs, Frederick Douglass, Booker T. Washington, and Charles W. Chesnutt among many others and even now, more than a century later, this twoness still exists. Birthed from the souls of slaves, African American literature is an invaluable source of cultural pride to African Americans. However, the varying intricacies of the identity struggle in Dubois' analysis, what Dubois describes as the African American's attempt "to merge his double self into a better and truer self" (Dubois 615), affect the consciousness of African Americans today. This is clear in early African American literature as well as later works.

The psychological and sociological aspects of African American culture are essential to understanding African American literature. Of the authors Saidiaya V. Hartman and Fred Moten, Shelley Eversley says, "Like many of their peers, Hartman and Moten use interdisciplinarity to produce an African-American criticism within and beyond the color—line" (Eversley 1307). To analyze their writing one must understand the impact of social, educational, and historical events on black's lives. A good place to begin examining black literary history is with the first black American to publish a book.

Phillis Wheatley was the first African published in America. Phillis's master and mistress were taken with something they saw in her and educated her. Her poem "On Being Brought from Africa to America" brought forth controversy and criticism that spanned over centuries. First, she received criticism and doubt from whites about the authenticity of her work. Later, she received criticism from African American authors and poets of the 1970s who called her a "sell-out" and an "Uncle Tom". Her writing reflects her evolution as an educated slave and a Christian convert. However, as a slave, she could not forget her place in the world, as it was. Phillis seemed by others to have sold out her race when in fact she adapted to her environment (embracing Christianity and learning to read). In the first verse of the

¹Completed under the mentorship of Prof. Tisha Ulmer for English 77: The Roots of African American Literature.

poem she says, “Twas mercy brought me from my Pagan land, / Taught my benighted soul to understand” (Wheatley 171). She was simply expressing her personal interests in religion² and the arts to capture the audience of slaveholders. The subtlety with which she addressed her audience in portraying the plight of the African slave was such that many overzealous black rights activists misjudged and misread her works. She entreated, “Remember, Christians, Negroes, Black as Cain, / May be refin’d, and join th’ angelic train” (Wheatley 171). Simple in text and verse her work reflects the double consciousness about which Dubois spoke.

She seemed to have embraced her America, which had no real place for her other than as property. She struggled with her African identity in speaking of the heathenism of Africans. However, this example is an example of an attempt by Wheatley to seek empathy for the African race. Wheatley wrote, “To the Honorable Earl of Dartmouth” to implore him to aid in the independence of American colonists. She writes, “Hail, happy day, when smiling like the morn, / Fair Freedom rose New-England to adorn” (Wheatley 172). However, she also used this poem to explain her own plight and want of freedom. She writes the following:

I, young in life, by seeming cruel fate
Was snatched from Afric’s fancy’d happy seat:
What pangs excruciating must molest,
What sorrows labour in my parent’s breast?
Steel’d was that soul and by no misery mov’d
That from a father seiz’d his babe belov’d:
Such, such is my case. And then can I pray
Others may never feel tyrannic sway? (Wheatley 173).

Phillis inspired and empowered blacks to write their own thoughts, ideas, and experiences such as the slave narrative. There are slave narratives written as early as 1787, which provide a view of the experience of slavery.

Harriet Jacobs’ and Frederick Douglass’s narratives are so gripping and filled with details about their lives, it is almost easy to overlook where Dubois’s “twoness” affects them and their writing. The educated slave in them clearly desires freedom and equality; however, they also sympathized with their white slaveholders. As Jacobs recalls, “I loved her; for she had been almost like a mother to me... She died... day after day, my tears fell upon her grave” (Jacobs 211). Most slaves felt this way about their owners due to their separation from their own families. Their owner’s family in some cases served as a surrogate family.

The sense of identity that comes from family and carrying the family name was lost on slaves who experienced this cost through attaining their owners’ names, especially surnames. When Harriet Jacobs baptized her daughter, she noted the difficulties of having to give her children their Christian names. She says, “I added the surname of my father, who had no legal right to it; for my grandfather on the paternal side was a white gentleman” (Jacobs 224). Giving her child the name of her white grandfather was so disturbing, she states, “I loved my father; but it mortified me to be obliged to bestow his name on my children” (Jacobs 224). This experience would be the impetus for one of the most profound quotes concerning slavery and the identity of African Americans: Jacobs exclaims, “What tangled skeins are the genealogies of slavery” (Jacobs 224)! The identities and ethnic backgrounds of

² She had converted to Christianity “during eighteenth-century Enlightenment... which supported abolition” (Littlefield 106).

many African Americans are a result of these tangled skeins. Being a mulatto often carried a cloud of shame, which Dubois describes: “the wrong which your gentlemen have done against helpless Black women in defiance of your own laws is written on the foreheads of two millions of mulattoes, and written in ineffaceable blood” (Dubois 664). Such an ancestry undoubtedly carried an added identity conflict to the double consciousness in mulattoes; they received acceptance from neither race, and held a higher status between both races.

The contentment Jacobs felt while in the care of her first mistress gave her the desire for freedom even more once placed in the care of a sexually depraved male slave master. Dubois refers to a generalized consensus by most African Americans about the rape of black female slaves: “the red stain of bastardy, which two centuries of systematic legal defilement of Negro women had stamped upon his race, meant not only the loss of ancient African chastity, but also the hereditary weight of a mass of corruption from white adulterers, threatening almost the obliteration of the Negro home” (Dubois 618). The double consciousness of a female slave is ground in her inability to control what happens to her own body. She has no power and is threatened with death if she resists. These unspeakable sexual abuses cause psychological devastation. The sexual exploitation Harriet suffered was daily verbal harassment from her owner, “Dr. Flint.” This occurs at a time that she refers to as, “a sad epoch in the life of a slave girl” (Jacobs 216). Harriet knows his pursuit of her will lead to inevitable defilement; she becomes “reckless” and makes a decision that changes her life. Harriet seeks the comfort of a kindhearted white man whom she befriends. She pleasingly reveals to her master, whom she has managed to evade for some time that she is pregnant via another white man. This “sinful” and illegal action aids in her eluding the physical defilement of her tormentor. Thereby, she in a sense defiled herself by bedding a white man, of her choosing, in a time when such relations were frowned upon: Harriet has claimed her body in addition to her womanhood through psychological warfare against her owner.

Frederick Douglass's *Narrative of the Life of Frederick Douglass* is an example of the courage and determination of the slave to educate himself and to be free. He claims his manhood in a struggle with Mr. Covey, who is a well-known slave breaker charged with the duty of breaking Douglass. Of this turning point in his life he says, “You have seen how a man was made a slave; you shall see how a slave was made a man” (Douglass 340). He proceeds to reveal the meaning of this statement, upon an unexpected attempt by Mr. Covey to beat him, in the following:

I resolved to fight; and suiting my action to the resolution, I seized Covey hard by the throat; and as I did so, I rose. He held on to me, and I to him. My resistance was so entirely unexpected... This gave me assurance, and I held him uneasy, causing the blood to run where I touched him with the ends of my fingers... He had used me like a brute for six months... I was determined to be used no longer... We were at it for nearly two hours... This battle with Covey was the turning-point in my career as a slave. It rekindled the few expiring embers of freedom, and revived within me a sense of my own manhood. It recalled the departed self-confidence (Douglass 343).

This defiance stayed with Douglass and he resolved to never willingly accept a beating again. Before this slave boy became a man, the ills of slavery, combined with education and literacy, planted in him the seeds of what would make him a legendary civil rights activist.

Around the age of seven, Douglass first learned the alphabet from his naïve mistress who, he laments; “in compliance with the advice and directions of her husband” (Douglass 326) ceased to instruct him. Douglass describes the thirst for knowledge she awakened in him: “Mistress, in teaching me the alphabet, had given me the *inch*, and no precaution could prevent me from taking the *ell*” (Douglass 327). Of his success in obtaining an education he says, “I was compelled to resort to various stratagems”

(Douglass 326). He befriended little white boys he passed in the street and used them as teachers. He carried bread which he says he, “used to bestow upon the hungry little urchins, in return [sic], would give me that more valuable bread of knowledge” (Douglass 327). From this, he learned to read. Approximately five years later, he acquired “The Columbian Orator”, an abolitionist publication, which contained literature and dialogue. He asserted that it, “gave tongue to interesting thoughts of my own soul... The moral which I gained from the dialogue was the power of truth over the conscience of even a slaveholder” (Douglass 328). What he learned was invaluable to him; reading had kindled his desire for freedom. Douglass declared, “As I read and contemplated the subject, behold! that very discontentment which Master Hugh had predicted would follow my learning to read had already come, to torment and sting my soul to unutterable anguish” (Douglass 328). The knowledge he so adamantly sought had sent him on a path from discontent to resistance and freedom.

The double consciousness within Frederick Douglass (who was born Frederick Bailey), the fugitive slave created Frederick Douglass the abolitionist, great orator, and civil rights activist, who had to change his name to conceal his status as a fugitive. Although he kept his first name, changing his last name and never knowing his father left their mark on Frederick the man. Knowing that his father was white left Douglass struggling to define himself as a young man. He found his voice as an African American as a lobbyist and activist for not only the emancipation and civil rights of slaves, but for women’s suffrage and the rights of other oppressed groups as well.³ It was Douglass, among others, who incited President Lincoln to issue the Emancipation Proclamation. Though the veil of double consciousness kept this illiterate slave captive within his own mind (education was withheld from black slaves to keep them in line and fearful of life beyond servitude), Douglass became self-aware through literacy. Through Douglass’ continued public speaking and lobbying, he was an inspiration to future generations of black activists and civil rights leaders like Booker T. Washington and W. E. B. Dubois.

Booker T. Washington urged the white South to see the benefits of educating and employing freed slaves. He expressed the everlasting compassion of his race in writing, “as a rule, not only did the members of my race entertain no feelings of bitterness against the whites before and during the war, but there are many instances of Negroes tenderly caring for masters and mistresses who for some reason have become poor and dependent since the war” (Washington 495). Much like Phillis Wheatley, he used gratitude and empathy in addressing antebellum southern whites. In taking this approach, both Wheatley and Washington grasped the attention of their intended white audience. Washington sympathized with and gave excuses for the individuals who enslaved blacks. Of his unknown white father, he stated, “But I do not find especial fault with him. He was simply another unfortunate victim of the institution which the Nation unhappily engrafted upon it at the time” (Washington 491). However, Washington’s Up from Slavery and his speech at the Atlanta Exposition “The Atlanta Compromise” also illustrate the conflict within the African American psyche, as Dubois has noted. Washington’s double consciousness is clear in his address of the economic progress of the South in “The Atlanta Compromise”. In spite of the discontent felt by black Americans (after being emancipated) who were subject to Black Codes and Jim Crow laws⁴, he spoke of the cooperation that the blacks were willing to give to the white South.

Highly regarded, by his supporters (blacks and whites), for his speech at the Atlanta Exposition, Washington rallied the support of the white South to employ and educate blacks in the vocational industries. He implored of them: “Casting down your bucket among my people...you can be sure in the

³ “Douglass defended not only persecuted African Americans but native American Indians, the Irish, and other immigrant groups as well” (Whitworth 319).

⁴ These restrictive codes and laws (established during Reconstruction) legally limited where blacks could go and what they could do.

future, as in the past, that you and your families will be surrounded by the most patient, faithful, law-abiding, and unresentful people that the world has seen” (Washington 515). He assured them that blacks would comply with segregation in saying, “In all things that are purely social we can be as separate as the fingers, yet one as the hand in all things essential to mutual progress” (Washington 515). Clearly displaying what Dubois says are “two warring ideals,” Booker T. Washington meant well, but added to the damnation of the civil rights that Douglass and others fought to establish. He suggested that blacks seek employment in the fields of manual labor. He urged them to believe that, “It is at the bottom of life we must begin, not at the top” (Washington 514).

Washington urged the black community to focus on vocational education rather than intellectual study. His efforts to secure the employment of destitute blacks in the segregated South are both commendable and controversial. He should be commended for making the white South see the importance of the black community to the economic progress they so desperately needed. However in his conception blacks’ progress in America was limited to the continuation of physical labor that slaves were forced to do. This blindness is a “veiled view” of the world from a black man openly advocating on behalf of the black community.

Dubois, a great intellect and advocate for obtaining higher education, countered Washington’s Atlanta Compromise. He skillfully addressed the dilemma of African Americans and the need for a full academic education: “But so far as Mr. Washington apologizes for injustice, North or South, does not rightly value the privilege and duty of voting, belittles the emasculating effects of caste distinctions, and opposes the higher training and ambition of our brighter minds,—so far as he, the South, or the Nation, does this,—we must unceasingly and firmly oppose them. (Dubois 642). Dubois promoted the idea of blacks entering the professional fields of medicine and law stating, “In the professions, college men are slowly but surely leavening the Negro church, are healing and preventing the devastations of disease, and beginning to furnish legal protection for the liberty and property of the toiling masses” (Dubois 663). He believed these positions would aid in the advancement of blacks. In his counter argument against Washington he says, “The function of Negro college, then, is clear, it must maintain the standard of popular education, it must seek the social regeneration of the Negro, and it must help in the solution of problems of race contact and co-operation. And finally, beyond all this, it must develop men” (Dubois 665). His vision led to the establishment of the National Association for the Advancement of Colored People (NAACP) in 1910. Having defined the “Negro problem”⁵ in terms of identity, he provided an answer.

Dubois learned early in life that he was not like everyone else. Dubois refers to the veil as “the racial lens through which White Americans view Black Americans, and the double consciousness with which Black Americans experience the world” (Burke 412). This veil is the second sight in African Americans that allows them to see the world beyond racist viewpoints. This metaphor of the veil derives from the mystical and spiritual qualities of African Americans. In acknowledging his first “awareness” of the veil he recalls, “I remember well when the shadow swept across me” (Dubois 614). He realized, “with a certain suddenness that I was different from the others⁶; or like, mayhap, in heart and life and longing, but shut out from their world by a vast veil” (Dubois 614). This is what led Dubois to eventually understand and overcome that, which would have hindered him. He says, “All this fine contempt began to fade; for the world I longed for, and all their dazzling opportunities, were theirs, not mine. But they

⁵ Following slavery, Southern whites struggled with how to deal with African Americans and how they fit into a society that neither wanted them nor accepted that they were entitled to equal rights.

⁶ The “others” Dubois refers to are his white classmates. Dubois recounted this incident which he attempted to exchange holiday cards with his classmates and is snubbed by a white female classmate.

should not keep these prizes, I said; some, all, I would wrest from them....Just how I would do it I could never decide: by reading law, by healing the sick, by telling the wonderful tales that swarm in my head,—some way” (Dubois 614-615).

Dubois believed that the education and literacy of African Americans allowed them to become self-reliant and step out of double consciousness into self-awareness. He says, “In those somber forests of his striving his own soul rose before him, and he saw himself,—darkly as through a veil, and yet he saw in himself some faint revelation of his power, of his mission” (Dubois 617). Dubois also refers to the veil in its mystical interpretation saying, “The Negro is a sort of seventh son, born with a veil, and gifted with second-sight in this American world—a world which yields him no true self-consciousness, but only lets him see himself through the revelation of the other world” (Dubois 615). In explaining the origins of the mysticism of the veil, Judy L. Isaksen reveals the following:

The veil in African American culture is a mystical dimension of a spiritual belief system that traveled with slaves on the Middle Passage. An infant “born with a veil” of fetal membrane enveloping the head was interpreted as supernaturally gifted with a second sight, and ability to see into the future. Likewise, the seventh child of a seventh child would also be gifted with spiritual powers. The veil, also called a caul, like roots, charms, and conjurers, is a vivid aspect of African American spiritual, literary, and folklore tradition (Isaksen 602).

There are African American authors who have used this mysticism in their writing in keeping with the tradition of African storytelling. Charles W. Chesnutt was an author of fiction who used his knowledge of mysticism and conjuring in his tales. Chesnutt’s “The Goophered Grape” is the story of a former slave, Uncle Julius, who spins a tale steeped in superstition to deter a white man from buying a piece of abandoned property he has plans for; it is indicative of getting one over on the white man. He uses plantation slave vernacular giving Uncle Julius an authentic yet stereotypical identity. Uncle Julius says, “Well, I dunno wher’r you b’lieves in cunj’in’ er not,—some er der w’ite folks don’t, er says dey don’t, but de truf er de matter is dat dis yer ole vimya’d is goophered” (Chesnutt, *The Goophered Grapevine* 526). Chesnutt’s own multi-ethnicity suggests the mocking of the plantation slaves’ intelligence (most mulattoes had a reputation for having an elitist attitude regarding plantation slaves). He alters this perception in allowing Uncle Julius the intellect to create an intricate story although Julius fails in his goal to deter the white man.

“The Wife of His Youth”, also penned by Chesnutt, also uses plantation slave vernacular to give the character of Liza Jane an identity crucial to the moral of the tale. She is a former slave searching for her husband who was a free slave (he ran away to evade his potential return to slavery) 25 years prior. She encounters Mr. Ryder, a Blue Vein (an aristocratic society of intellectual and prosperous blacks in the North). She begins to tell Mr. Ryder her story of how she came to be separated from her husband and the lengths she has gone to in search of him; she says, “I’s be’n lookin’ fer ‘im eber sence” (Chesnutt, *The Wife of His Youth* 549). Mr. Ryder hosts a dinner at which he poses a question to his elite group of friends; he proceeds to give a toast and tells the tale of the woman dedicated to finding her husband. He then poses a dilemma: if the man is alive, believed it impossible to reunite and has since made something of himself, he asks, “What should he have done” (Chesnutt, *The Wife of His Youth* 553)? He ponders the question himself, and quotes Shakespeare, “To thine own self be true”. His friends respond as he suspected they would and say, “Acknowledge her”. He promptly introduces “the wife of his youth”, Liza Jane, to his friends. Though they became separated by class, intellect, age, and time this couple torn apart by the cruelty of slavery had reunited through integrity, compassion, and lasting love. Allowing the couple to reunite, Chesnutt dispels the notion that mixed race and elite blacks had a snobbish arrogance against their own kind. Mr. Ryder says, “But we people of mixed blood are ground between the upper and the nether millstone. Our fate lies between absorption by the white race and extinction in the Black. The

one doesn't want us yet, but may take us in time. The other would welcome us, but it would be for us a backward step" (Chesnutt, *The Wife of His Youth* 547). This may not be Charles W. Chesnutt's personal belief, but it offers a window into the mindset and inner struggle of African Americans who are of mixed race.

For the first African Americans, life in a new land, with new customs and traditions, created a new identity attained through assimilation and religious conversion. Hated and ostracized, African Americans from the 1700s onward found literature to be an outlet but also the key to freedom in many respects. Literacy became a means of self-expression, conveying the despair they felt and the hopes they had in striving to be both African and American. Emancipation and escape from slavery left many slaves destitute and confused, having been given names (replacing their own African names) and adapting to a culture vastly different from their own greatly affected their identity. All the same, they adapted at the cost of great confusion and loss of self.

Although it was in the best interest of black authors to curtail their disenfranchisement with the white South and the government (that allowed their continued enslavement), maintaining the "veil" in their works was a great disservice to later generations of African Americans. Born from the experience of slavery, early African American literature is thought-provoking and gives a view into the minds and hearts of slaves. However, it also catered to the white South in tones of sympathy and discretion since white audiences might not approve of its content. Yet, early African American authors used literature to spread messages of faith, hope, and insurrection. Former slaves who converted to Christianity and longed to be a part of America, and to enjoy the same personal, religious and political freedoms as whites, found literature to be the platform by which they could prove themselves worthy of humanity. Black authors wrote to prove their worth as citizens, to condemn slavery, uplift their race, and contribute to the literacy of blacks. The influences of education, religion, slavery, racism, and prejudice make African American literature what it is. Literature is an expression of the personal experiences, thoughts and ideas of its author. However criticized, it is inescapably an expression of truth and "the truth shall set you free" (The Bible: Authorized King James Version John 8.32).

The tradition of African storytelling, passing down stories through history from one generation to the next, is an innate aspect of African American literature. Encountering the writings of early blacks who mastered English and developed writing skills far superior to most present day authors is overwhelming, to say the least. These great African Americans of the past dared to be more than ignorant slaves, they strived for freedom and equality for themselves and future generations. This activism and pride of a people, who used literature to educate others and fight against oppression, gives hope to future generations. Perhaps this was among the reasons that it was illegal to teach a slave to read and write. Fact and fiction written by blacks in a time when very few blacks could read or write is a gift in itself. The legacy of slavery has undoubtedly marked the identities of African Americans, but education and literacy have lifted the veil of the double consciousness. From the worst that slavery inflicted upon African Americans came one good: it gifted literature with "the souls of black folk."

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SARAH BALLANTYNE

Camille Claudel: Her Own Gold¹

Abstract

This essay aims to explore the work of Camille Claudel, focusing on the stylistic influences that preceded her relationship with Auguste Rodin. Claudel's sculptural development will be examined, in addition to the metaphysical explorations of her later symbolist work. By dissociating Claudel's work from that of Rodin, a new evaluation of her creative sensibility, as well as the broader struggle of a female artist working in the early 19th century, will be proposed.

When critics claimed in the late 19th century that Camille Claudel was too sculpturally influenced by Auguste Rodin, his response was: "I showed her where to find gold, but the gold she found was her own."² Inevitably, in spite of this statement, Rodin still comes to mind as Claudel's primary influence and mentor. The two sculptors are often discussed in the context of a tumultuous personal relationship, to which Claudel's mental decline is thought to be intrinsically linked. While this relationship has generated interest in her life as mistress-and-muse, it has the drawback of shifting attention away from her individuality and significance as an artist. This paper aims to explore the stylistic influences that precede Claudel's time with Rodin, and that indicate the direction of her later work. By comparing the different stages of her creative life—her adolescence in Villeneuve-sur-Fère, early adulthood in Rodin's workshop in Paris, and later years before her admittance into Montdevergues asylum—the evolution of Claudel's thematic and stylistic originality can be revealed as she herself wished them to be: free from the constraints of Rodin's influential shadow.

To understand Claudel's personal approach to sculpting, it is first necessary to retrace her adolescence. It was during her early teenage years, before meeting Rodin, that her creative sensibility came into being. In a letter to her mother in 1927, four decades after moving to Paris, Claudel expressed her longing to return to her native town: "My dream would be to return to Villeneuve right away and never again move," she writes. "I would rather have an old barn in Villeneuve than to be ... here."³ It is within this nostalgic yearning that the significance of Claudel's early life is revealed, and takes sculptural

¹ Completed under the mentorship of Prof. Linda Butti for Art 39: History of Women in Art.

² Angelo Caranfa, *Camille Claudel: A Sculptor of Interior Solitude* (Cranbury: Associate University Presses, 1999), 37.

³ *Ibid.*, 30.

form. Her earliest influences can be traced to the provincial landscapes surrounding Villeneuve, particularly la Hottée du Diable—the “Devil’s Basket”—where she delighted in the jagged contours, irregular textures and deep shadows of eroded rocks and caves.⁴ These natural elements appeared to Claudel as potential representations in sculpture, and inspired her first terracotta creations. Moreover, they foreshadow the technique of her later work, in which smooth figures gracefully emerge from sturdy, textured bases like trees growing from the earth.

La Fortune (Plate 1) is an example of Claudel’s imitation of natural forms. The sculpture depicts a woman dancing with castanets, who is fixed to a heavy base of bronze. The supporting structure resembles a mound of stone, similar to those found in la Hottée du Diable (Plate 2). A coarse, bark-like cover crawls upwards from the base, covering the lower portion of the female figure. The bark acts almost as a second skin, wrapping around her sleek body as though she were a fragile stem. She extends diagonally, with the same movement and directional freedom as a growing organism. The textural transition from rough to smooth is reminiscent of Gian Lorenzo Bernini’s *Apollo and Daphne* (Plate 3), which similarly depicts a metaphysical blending of the human form with its natural environment. The upper portion of the woman’s body retains smoothness and clarity, in contrast to its rough pedestal. By mixing natural textures with more refined surfaces, Claudel applied both classical principles of sculpture and impressionistic ideals to her work. The shifts and changes of nature are captured without sacrificing anatomical realism.

While natural formations can be related to Claudel’s treatment of works like *La Fortune*, the remoteness of Villeneuve also accounts for her choice of subject matter. With few art academies nearby, Claudel is thought to have received her first formal artistic training through private instruction.⁵ Beginning in 1876, she drew inspiration from mythology and historical literature and created her first sculptures of heroic figures: David, Goliath and Napoleon.⁶ In the tradition of the Neoclassical sculptors, her technique became more refined as she engaged Greco-Roman themes. During this period, Claudel also established one of her predominant traits as a sculptor: depicting people with whom she had built personal relationships. With limited resources, she often turned to family and friends to pose for her busts. Her portraits reveal a close rapport with models, in contrast to their anonymity in Rodin’s workshop.

Her earliest depictions of family members include those of her brother Paul Claudel, whose portraits are elevated to the heroic stature of Roman busts. In an idealistic portrait, *Buste de Paul Claudel à treize ans* (Plate 4), a young Paul has been conceived in a clear, classicizing style. His face is serene, with wide eyes and subtle contours that barely indicate a more lively spirit. The bronze surface is reflective, polishing over any physical imperfections that might tarnish his features. As a young man, Paul is again elegantly portrayed in *Mon frère* or *Le Jeune romain* (Plate 5), but lacks the anonymity of his former idealized portrait. Rather, he has acquired the individual character of physical maturity and is infused with interior life—his eyes and mouth are tense, drawing attention to the expressive rendering of his flesh. Shown as a Roman conqueror, he is poised yet displays a youthful fragility that recalls the work of Donatello (Plate 6), whom Claudel greatly admired.⁷ In both depictions of Paul, her affinity for 15th century Florentine sculpture is revealed—the features are defined, and the busts dignified and balanced. The influence of Florentine work was independent and unrelated to that of Rodin, and foreshadows the sensuality of Claudel’s sculpture in the early 20th century.

⁴ Odile Ayrat-Clause, *Camille Claudel: A Life* (New York: Harry N. Abrams, Inc., 2002), 14.

⁵ Caranfa, *Camille Claudel: A Sculptor of Interior Solitude*, 31.

⁶ Reine-Marie Paris, *Camille Claudel* (Washington: The National Museum of Women in the Arts, 1988), 105.

⁷ *Ibid.*, 19.

After her move to Paris in 1881, Claudel's style underwent further changes in her new academic environment. She enrolled into the Académie Colarossi, which brought her into contact with other prominent sculptors of the period.⁸ Alfred Boucher was among those to recognize her artistic potential, and unique style which carried with it the undercurrent of Villeneuve. Claudel's provincial background set her apart from other artists in Paris, making it difficult for her to assimilate. In a letter, Boucher expresses his first impressions of Claudel, who had not yet become Rodin's pupil. "[I am] afraid of her social ineptitude," he stresses. "What will become of her, and how will Auguste deal with such a violent and independent young girl?"⁹ Claudel's volatile temperament and social withdrawal is often thought to have been sparked by her affair with Rodin, but Boucher reveals its earlier origin. In doing so, he presages their tumultuous relationship, and the "social ineptitude" that would impact Claudel's work over the following decade.

After enrolling as a student in Rodin's workshop in 1883, the two began a well-documented relationship. Their affair also inspired a new thematic direction in Claudel's work. Though he worked with traditional subjects and materials, Rodin's teachings were rooted in the innovations of the impressionist style of the period. Through direct observation, he encouraged Claudel to exaggerate the features of her portraits, so that energy would emanate from otherwise sober gestures. "We must unfreeze sculpture ... life is movement," he would tell her.¹⁰ The study of hands and feet, as the foundations of movement, were emphasized in his lessons.¹¹ Claudel refined her anatomical skills by assisting Rodin's projects, and observing anonymous live models. This enabled her to study the human body objectively, without the personal involvement she had experienced with her family and friends. With Rodin as her new mentor, she began to build her figures in multitudes of textured, light-catching layers, concentrating primarily on the emergence of form from matter.

L'Homme Penché (Plate 7) exemplifies Claudel and Rodin's likeness of style during this period. Carved in plaster, the male figure is in a crouching position that closely resembles Rodin's work. His body folds into itself like a fetus, threatened by what seems to be harsh surroundings. His arms and hands are locked around one leg and foot—a gesture that Claudel improvised, and which would be reused by Rodin in *Obsession* (Plate 8).¹² The figure has been rendered with sharp muscular definition, drawing attention to each twist and pull. Unlike Claudel's earlier smooth surfaces, the plaster is rough and marked with scratches that exaggerate an emaciated physique. His physical strain—the painfully curved spine, bent neck and knees—recalls Rodin's *Adam* (Plate 9), whose internal anguish results in outward immobilization. Like *Adam*, *L'Homme Penché* expresses inner turmoil through physical contortion. This similarity signified a break in Claudel's traditional approach to portraiture, as she began to execute her work with physical immediacy.

As Rodin's affair with Claudel progressed, the two sculptors received varied critical responses that would push them in separate stylistic directions. By 1889, Rodin had become a founding member of the *Société Nationale des Beaux-Arts*, and already achieved commercial success.¹³ Claudel, however, continued to face obstacles imposed upon female artists of the period. Critics would compare her work to Rodin's, thereby questioning her own originality. In response, she began to explore themes of love, unity and separation in a style that consciously removed itself from *L'Homme Penché*. Her most recognized

⁸ Ibid., 105.

⁹ Caranfa, *Camille Claudel: A Sculptor of Interior Solitude*, 36.

¹⁰ Odile Ayrat-Clause, *Camille Claudel: A Life*, 49.

¹¹ Ibid., 49.

¹² Reine-Marie Paris, *Camille Claudel*, 26.

¹³ Ibid., 106.

sculpture from this period, *La Valse* (Plate 10), coincided with a reclamation of her artistic identity. The work was initially shunned by critics for its nudity, forcing Claudel to censor the lower portion of the embracing figures.¹⁴ Her forced compliance with codes of morality differed from those of Rodin, whose nude sculpture of a couple kissing—*Le Baiser* (Plate 11)—was embraced by the French public only two years prior.

As she distanced herself from Rodin's techniques, Claudel gravitated towards the emerging French Symbolist style of the 1890s. She rejected realistic proportions in favor of more metaphysical ideals, which directly inspired *La Valse*. The work portrays a man and woman who are face-to-face, intimately dancing. As seen in *La Fortune*, a textured bronze base blankets their lower bodies. Though firmly rooted to the ground, their upper bodies curve and retain a sense of elevated freedom. They avert the heavy, mortal weight of Rodin's *Le Baiser*, and the hierarchal tradition between man and woman. Instead, Claudel portrayed the dancing lovers as equals, mirrored in harmonious movement. Locked in a tender embrace, they rise in what one scholar interprets as "nuptial flight."¹⁵ By comparing *La Valse* and *Le Baiser*, the pivotal difference between the work and emotional response of Claudel and Rodin is made evident. *La Valse* expresses a longing for deep, spiritual union, while *Le Baiser* focuses on physical passion. Claudel's new symbolist sensibility was also aimed at achieving creative independence, without the support of her mentor.

Claudel's separation from Rodin in 1903 marks yet another significant shift in her style, as she attempted to dissociate her work from his. The tumult of their affair had not only degraded her as his mistress, but also marred her reputation as an artist. In her letters, she asserted that her sculptural ability was not owed to his mentorship: "Monsieur Rodin is not unaware that many nasty people have said he made my sculpture," she stated. "If [he] really wishes me well, he can do it without having people believe that I owe the success of the sculptures on which I work to his advice and inspiration."¹⁶ Claudel's reluctance to credit Rodin as a teacher is a testament to both her determination and growing insecurity. She feared that her work would remain indebted to him, hindering her progress in the art world. Without a mentor, her next decade would be sculpturally productive, yet psychologically devastating. Claudel continued to create in solitude, embracing the ideals of the *fin de siècle* style. Like other symbolists, she rejected materialism and realism, directing all of her artistic energy towards the spiritual expression of *La Valse*. Her handling of metaphysical themes came to fruition in the work *L'Age mûr*, which encompassed her distress during this period.

L'Age mûr (Plate 12) depicts a tragic scene of separation and loss. A distressed woman implores her lover to stay with her, begging him on her knees. Rather than respond, he walks forward into the arms of an otherworldly figure, who will deliver him to old age and death.¹⁷ Compositionally, the traditional placement of figure and pedestal—as seen in *L'Homme Penché* and Rodin's *Le Baiser*—has been challenged. The three characters are placed on a long, uneven base. The man stands at one end, while the pleading woman kneels at the other, creating an imbalance. An empty space divides the figures, emphasizing a void central to the sculpture. As the woman and man reach out to each other, their hands fail to meet by only a few crucial inches. Each physical gesture transmits the panic and turmoil of lovers parting, yet the moment is realized only with suspension. Their impending separation prompts a

¹⁴ Ibid., 22.

¹⁵ Ibid., 22.

¹⁶ Odile Ayral-Clause, *Camille Claudel: A Life*, 19.

¹⁷ Reine-Marie Paris, *Camille Claudel*, 23.

meditation on the time those who are left alone, While this desperate demise of her it also depicts the abandonment and social seclusion.

By considering *L'Age mûr*, it is possible Claudel's influences. Its also found in *La* reverberates from the Villeneuve. The works—marked by definition and implied partly attributed to predecessors, who busts. Each of her vitality of character that involvement with her in *Mon frère* or *Le* physical force of *L'Age* relates to Claudel's



and space that haunts as Claudel herself was. scene parallels the relationship with Rodin, feelings of isolation that led to her

the different elements of to see the full range of heavy swell of figures, *Fortune* and *La Valse*, rocky heart of sensuality of these three smooth, muscular movement—can be Claudel's Florentine inspired her earliest figures transmits a stems from her intimate subjects, as exemplified *Jeune romain*. *The* mur also symbolically involvement with Rodin,

recalling the inner anguish of L'Homme Penché. However, this final work embodies Claudel's own personal experience as an abandoned woman, who nevertheless attempted to realize her sculptural vocation.

Claudel's work is emblematic of how a female artist's innovations can be effaced by her better-known male counterpart. During her lifetime, her ability to transmute personal influences into symbolic forms was not recognized as a significant contribution to sculptural technique. While critics continue to evaluate her body of work largely in the context of Rodin's oeuvre, it is important to consider her unique handling of themes that differed greatly from his own. Her metaphysical exploration and intense portrayals of psychic trauma represent an original sculptural approach. Claudel endowed her figures—particularly those experiencing love, isolation and loss—with their own distinctive spirituality, thereby expanding the potential resources for other female artists of the 20th century.

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1. Camille Claudel, *La Fortune*, 1905. Bronze. Private collection.



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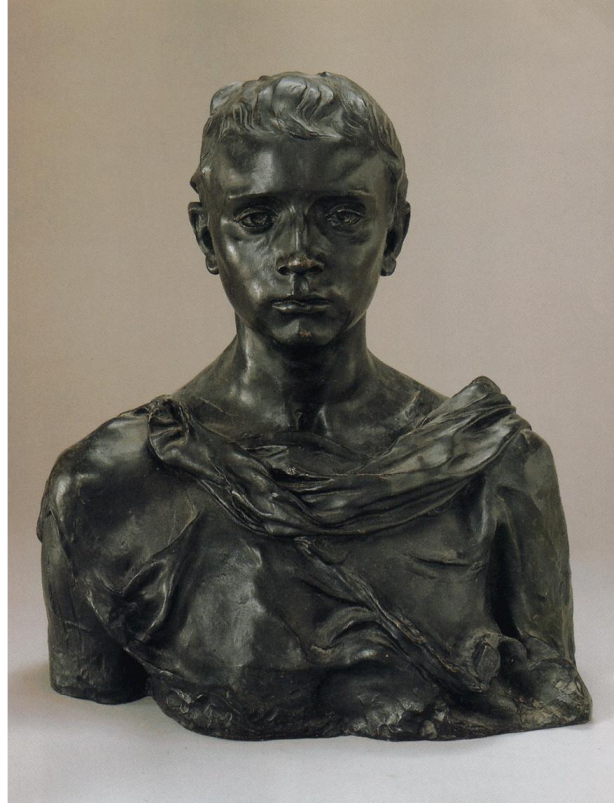
2. La Hottée du Diable
(The Devils Basket)



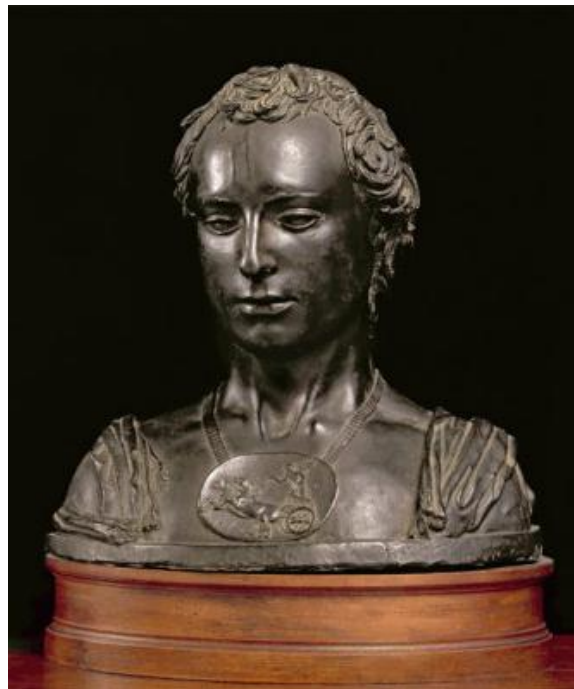
3. Gian Lorenzo Bernini, *Apollo and Daphne*,
near Villeneuve. 1622-25. Marble. Galleria
Borghese.



4. Camille Claudel, *Buste de Paul Claudel à treize ans*, 1881.



5. Camille Claudel, *Mon frère* or *Le Jeune romain*, 1884. Bronze. Musée Bertrand de Châteauroux. Bronze. Musée de Toulon.



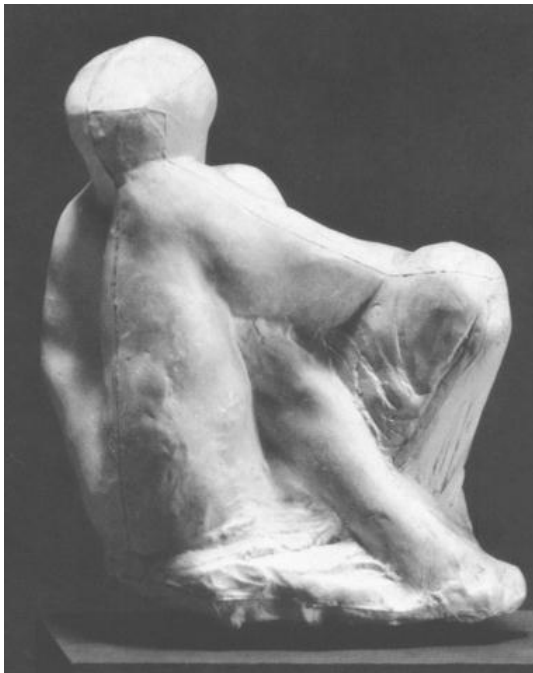
6. Donato di Bardi (Donatello), *Bust of a Young Man*, c. 1440. Bronze. Museo Nazionale Del Bargello.



7. Camille Claudel, *L'Homme Penché*, 1886. Plaster. Private collection.

8. Auguste Rodin, *Study for Obsession*, c.1896. Plaster.

9. Auguste Rodin, *Adam*, 1880. Bronze. The Metropolitan Museum of Art.



10. Camille Claudel, *La Valse*, 1891-1905. Bronze. Private collection.



11. Auguste Rodin, *Le Baiser*, 1889. Marble Musée Rodin.



12. Camille Claudel, *L'Age mûr*, 1907. Bronze. Musée d'Orsay.

VALERIA SELEZNEVA

Comparing and Contrasting Freud's Developmental Stages with Vygotsky's Social and Cultural Theory of Development²⁶

The scientific study of human development has been around for a relatively short time—only about 120 years—and yet, during this short time, numerous theories have been created. Developmental psychology is the scientific study of age-related changes throughout the human life span. A discipline of scientific inquiry, developmental psychology recognizes humans of all societies and cultures as beings who are “in process,” or constantly growing and changing. This discipline identifies the biological, psychological, and social aspects that interact to influence the growing human life-span process (Arnett, 187). This essay will focus on Sigmund Freud and Lev Vygotsky's contrasting theories on development.

Sigmund Freud (1856-1939) is probably the most well-known theorist on the subject of the development of personality. Freud's stages of psychosexual development are, like other stage theories, completed in a predetermined sequence and can result in either a successful completion leading to a healthy personality or can result in failure, leading to an unhealthy personality. According to Freud, people enter the world as pleasure-seekers. Specifically, people seek pleasure through a series of erogenous zones. This theory is probably the most well-known theory amongst stage theories as well as the most controversial (9).

Libido was Freud's word for psychic and sexual energy. How libido is expressed depends on the stage of development at the time. Each person is limited to a certain amount of libido. In order to develop successfully, a person has to equally share the libido in each stage. However, when too much of the libido is used in a single stage then one of two things occur. The first is fixation, which means that there are lingering desires for pleasure from a source experienced during that stage. Second is the reaction formation, which would be taking the lingering desire for pleasure from some source and acting in the opposite way. (Ciccarelli, 386). An example of reaction formation would be treating someone you strongly dislike in an excessively friendly manner in order to hide your true feelings. Freud proposed that there are 5 stages of development. He believed that few people successfully complete all 5 of the stages. In each stage of development there are frustrations. If those frustrations are not successfully dealt with, then the libido will be tied to that stage of development more than it should. Freud felt that most people tied up their libido at one of the stages, which prevented them from using that energy at a later stage (Ciccarelli, 388).

The first stage is called the oral stage because the erogenous zone is the mouth. This stage occurs

²⁶ Completed under the mentorship of Prof. David Troy for PSY 11: Introduction of Psychology.

from birth to about 1 or 1-½ years in age and is dominated by the id. The id is one of three parts of our personality: it doesn't care about reality or about the needs of anyone else, but only about its own satisfaction. For example, babies are not very considerate of their parents' wishes. They have no care for time, whether their parents are sleeping, relaxing, eating dinner, or bathing. When the id wants something, nothing else is important (4). During the oral stage, the child is focused on oral pleasures. Too much or too little gratification can result in an oral fixation or oral personality. A person with this type of personality may have a strong tendency to smoke, drink alcohol, over eat, or bite his or her nails. Personality-wise, these individuals may become overly dependent upon others, gullible, and perpetual followers. On the other hand, they may also fight these urges and develop pessimism and aggression toward others (Chapey, 316).

As a child becomes a toddler (1 or 1 ½ years to 3 years in age), Freud believed that the erogenous zone moves from the mouth to the anus, because he also believed children got a great deal of pleasure from both withholding and releasing feces at will. This stage is, therefore, called the anal stage. Through society's pressure, mainly by way of the parents, the child has to learn to control anal stimulation. In terms of personality, the after-effects of an anal fixation during this stage can result in an obsession with cleanliness, perfection, and control (anal-retentive personality). On the other hand, they may become messy and disorganized (anal-expulsive personality) (Chapey, 319).

As the child grows older (3 to 6 years in age), the erogenous zone finally shifts to the genitals. This stage is called the phallic stage. In *Three Essays on the Theory of Sexuality*, Freud elaborates on the phallic stage:

This phase, which already deserves to be described as genital, presents a sexual object and some degree of convergence of the sexual impulses upon that object; but it is differentiated from the final organization of sexual maturity in one essential respect. For it knows only one kind of genital: the male one... According to Abraham (1924), it has a biological prototype in the embryo's undifferentiated genital disposition, which is the same for both sexes (Freud 199).

Freud believed that during this stage a boy develops unconscious sexual desire for his mother. Because of this, the boy becomes a rival to his father and sees him as competition for his mother's affection. During this time, boys also develop a fear that their father will punish them for these feelings by castrating them. This group of feelings is known as an Oedipus Complex (Oedipus was a king in a Greek tragedy who unknowingly killed his father and married his mother). According to Freud, out of the fear of castration and due to strong opposing competition from their fathers, boys eventually decide to identify alongside their fathers rather than fight against them. By identifying with his father, the boy develops masculine characteristics and identifies himself as a male, and represses his sexual feelings toward his mother. A fixation at this stage could result in sexual deviancies, both overindulging and avoidance, and weak or confused sexual identity according to psychoanalysts (5).

By the end of the phallic stage, children have pushed their sexual feelings for the opposite sex into the unconscious in another defensive reaction: repression. From age 6 to the onset of puberty, children will remain in this stage of hidden, or latent, sexual feelings, which is why this stage is called the latency stage. In this stage children grow and develop intellectually, physically, and socially but not sexually. It is during this stage that children interact and play mostly with same-sex peers (Chapey, 320).

The final stage of Freud's psychosexual development begins at the start of puberty when sexual urges are once again awakened. Through lessons learned during the previous stages, adolescents direct their sexual urges onto opposite-sex peers, with the genitals being the primary focus of pleasure. Although this stage begins during puberty, it lasts throughout the rest of a person's life. Whereas in earlier stages the focus was solely on the needs of the self, interest in the welfare of others grows during this stage. If the other stages have been completed successfully, the individual should be well-balanced, warm, and caring (Chapey, 322).

Although most studies of development pay little attention to cultural context, in recent years a cultural approach to cognition has gained increased attention from scholars of human development. This

approach is founded on the ideas of the Russian psychologist Lev Vygotsky (1896-1934) (Chapey, 196). To understand Vygotsky's theory, it is important to look at the political environment of his time. Vygotsky began to work in psychology shortly after the Russian Revolution, when Marxism replaced the rule of the Czar. The new Marxist philosophy emphasized socialism and collectivism. Individuals were expected to sacrifice their personal goals and achievements for the improvement of the larger society. Sharing and cooperation were encouraged, and the success of any individual was seen as reflecting the success of the entire society (6).

In Vygotsky's view, cognitive development is always both a social and cultural process; this is why his theory is often referred to as a sociocultural theory. It is social because children learn through interactions with others and require assistance from others in order to learn what they need to know, and it is cultural because what children need to know is determined by the culture they live in. From agricultural skills in rural Asia, to caring for cattle in eastern Africa, to the verbal and scientific reasoning skills taught in Western schools, Vygotsky recognized that there are distinct cultural differences in the knowledge children must acquire (Chapey, 201).

Two of Vygotsky's most influential ideas are the zone of proximal development and scaffolding. The zone of proximal development is the difference between skills or tasks that children can accomplish alone and those they are capable of performing with the guidance of an adult or a more competent peer. Vygotsky argues that children learn best if the instruction they are provided with is within the zone of proximal development, so that they need assistance first but gradually become capable of performing the task on their own.

According to Vygotsky, "speech plays an essential role in the organization of higher psychological functions" (8). As children learn in the zone of proximal development and have conversations with those guiding them, children begin to speak to themselves in a self-guiding way, first aloud and then internally. This is also known as private speech. According to Vygotsky, toddlerhood and early childhood are crucial periods because it is during these life stages that children are most likely to use private speech and make the transition from using it aloud to using it internally. After it is developed, private speech continues throughout life. Vygotsky believed that private speech is necessary to all higher order cognitive functioning because private speech is often used when solving tasks of diverse kinds and diverse levels of difficulty. (Arnett, 190).

The second of Vygotsky's most influential ideas is scaffolding. Scaffolding is the degree of assistance provided to children in the zone of proximal development. Vygotsky states that scaffolding should gradually decrease as children become more competent at a task. When children begin to learn a task, they need substantial instruction and involvement from an adult; however, as they gain knowledge and skill, the teacher should gradually decrease the amount of direct instruction provided. An example of this is when a child tries to chronologically arrange blocks that contain the letters A to Z. At first, his performance would be poor but when his mother sits beside him and tells him how to arrange the letters properly, he will begin to learn how to do so. The child will then master the knowledge of arranging the alphabet with the presence of his parent. His mother, on the other hand, should then gradually let the child perform the task on his own as the child becomes more competent (Arnett, 191). Scaffolding can occur at any age, whenever there is someone who is learning a skill or gaining knowledge from someone else.

Although Vygotsky established his theories several decades ago, they can still be applied to our lives today. In fact, knowing both levels of Vygotsky's zone is useful for teachers, for these levels indicate where the child is at a given moment as well as where the child is going. The zone of proximal development has several implications for teaching in the classroom.

According to Vygotsky, for the curriculum to be developmentally appropriate, the teacher must plan activities that encompass not only what children are capable of doing on their own but also what they can learn with the help of others. Vygotsky's theory means that not anything can be taught to any child. Only instruction and activities that fall within the zone promote development. For example, if a child cannot identify the sounds in a word even after many prompts, the child may not benefit immediately from instruction in this skill because it may not fall within his zone of proximal development. The practice of previously known skills and introduction of concepts that are too difficult or complex, have

little positive impact. (Chapey, 206).

Teachers can use information about both levels of Vygotsky's zone of proximal development in organizing classroom activities. Instruction can be planned to provide practice in the zone of proximal development for individual children or for groups of children. For example, cooperative learning activities can be planned with groups of children at different levels who can help each other learn. (Slavin, 46).

Scaffolding can also be used in the classroom. In a high school laboratory science class, for example, a teacher might provide scaffolding by first giving students detailed guides to carrying out experiments, then giving them brief outlines that they might use to structure experiments, and finally asking them to set up experiments entirely on their own. (Slavin, 47).

Scaffolding and the zone of proximal development underscore the social nature of learning in Vygotsky's theory. Vygotsky believed that learning always takes place through a social process, through interactions between someone who possesses knowledge and someone who is in the process of obtaining knowledge. The ideas of proximal development and scaffolding have been applied to older children's learning as well, and Vygotsky's sociocultural theory of learning provides us with examples of this.

The sociocultural theory of learning states that children learn not through their individual interactions with the environment but through the social process of guided participation, which occurs as they interact with more knowledgeable members of their culture in their daily activities. In early childhood, young children have the capacity for learning culturally specific skills. A 5-year-old from Mayan culture can readily learn the skills involved in making tortillas, whereas a 2-year-old would not have the necessary learning abilities, motor skills, nor impulse control to do so. In many cultures, the end of early childhood (ages 5-6) is the time when children are first given important responsibilities in the family for food preparation, childcare, and animal care. (Arnett, 244).

Cultural learning through guided participation is not limited to traditional cultures. For example, a child in an economically developed country might help his parents prepare a grocery-shopping list. In the course of this process, the child will learn culturally valued skills, such as reading, using lists as tools for organization, and calculating sums of money. Children in Western countries are also often encouraged to speak up and hold conversations. An example is a typical American dinner. Over dinner, American parents usually ask their young children a series of questions about their day and the variety of activities they may have done. This prepares the children for the question-and-answer structure of formal schooling that they will enter in middle childhood. In contrast, cultures ranging from Asia to northern Canada often value silence over dinner, especially in children. In those cultures, children who talk frequently are viewed as immature and low in intelligence. (Arnett, 245).

There are two main factors that make cultural learning in developed countries different from cultural learning in traditional cultures. One is that children in developed countries are often apart from their families for a substantial part of the day, whether in a preschool setting or another group-care setting. Cultural learning does take place in the preschool setting; however, it is mostly a direct kind of instruction. Learning the alphabet or learning numbers are examples. This, of course, is different from learning that takes place through guided participation in daily activities within the family, but nonetheless it is still considered cultural learning. The second factor that makes cultural learning in developed countries different from in traditional cultures is that the activities of adults in a complex economy are less accessible to children than the activities children learn through guided participation in traditional cultures, such as childcare, tending animals, and food preparation. Most jobs in a complex economy require advanced skills in reading, analyzing information, and using technology; therefore, there is a limit to which children can learn these skills through guided participation, especially in early childhood. (Arnett, 245).

Sigmund Freud and Lev Vygotsky both demonstrate contrasting views on human development. Freud believed that there are five different stages in development, the oral, anal, phallic, latency, and genital stage. In the oral stage, the infant focuses on satisfying hunger. During this stage, the mouth is the focus of the libido. In the anal stage, the infant learns to control bowel movements. In this stage, children gain pleasure from both passing and withholding their feces. From the time of the age of three to six, the

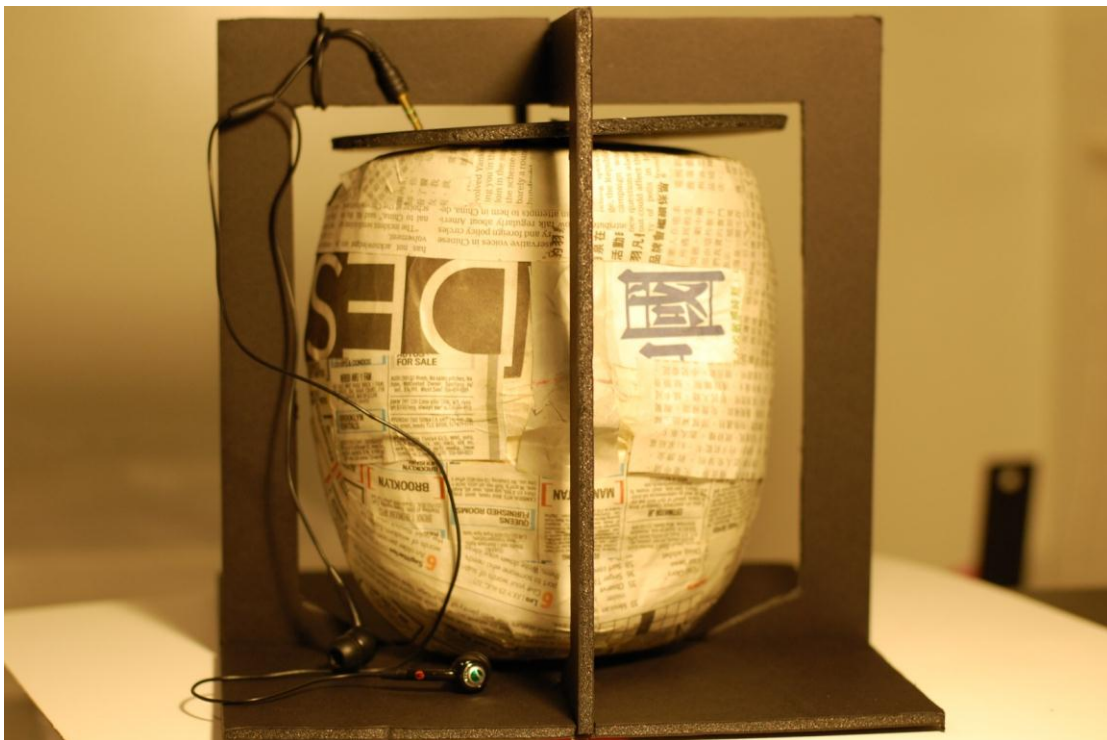
genitals become the focus of a child's sensual pleasure; this stage is called the phallic stage. The latency stage, is from the age of 6 until puberty, during which sexual interests are sublimated into other activities. Lastly, in the genital stage, interest in the child's own sex organs and in other people's replaces the earlier focusing on satisfaction of hunger and control of bowel movements. During this stage the personality is mature and no longer dominated by early drives for pleasure. In contrast, according to Vygotsky, development is a process that can be shaped by society and culture, rather than a series of "fixed" stages that remain the same regardless of a person's experience or background. According to Vygotsky, development is a life long process that is dependent on social interaction, and social learning actually leads to cognitive development. Two of Vygotsky's most influential ideas are the zone of proximal development and scaffolding, both of which underscore the social nature of learning. Vygotsky believed that learning always takes place through a social process, through interactions between someone who possessed knowledge and someone who is in the process of obtaining knowledge. Vygotsky also introduced the sociocultural theory of learning, which states that children learn not through their individual interactions with the environment but through the social process of guided participation. Although both Freud and Vygotsky have contrasting (sometimes opposing) views on development, neither of them is more correct than the other. Their finding can be summed up as being baseless suppositions or ideals. However, this doesn't dismiss their work as irrelevant; both scientists' research undoubtedly had great impacts on the study of psychology and development. In conclusion, it takes theories such as theirs to open the doorways to discover answers. If no new theories were ever proposed then every doorway towards answers would be met with dead ends.

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PEIYUE MA

Record-Player Calendar¹



The year 2012 is a very special year for me because I will be going back to my home country—China. I have lived in the United States as an immigrant for six years and have never gone back to my hometown before. I have been homesick in the last four years because I missed it so much. I am so excited and worried about going back to China. My project is to describe why I and many Chinese immigrants are worried about going back to our hometowns.

Let's look at my project first. There are three important parts in this project. The first part of my project is the human head with both Chinese and English languages written on its face. I used both languages because many of us Chinese immigrants feel that we don't belong to either one of these cultures. We have a hard time fitting into the American culture and when we go back to China, we find

¹ Completed under the mentorship of Prof. Kristen Derimanova for Art 74: Experimental Typography.

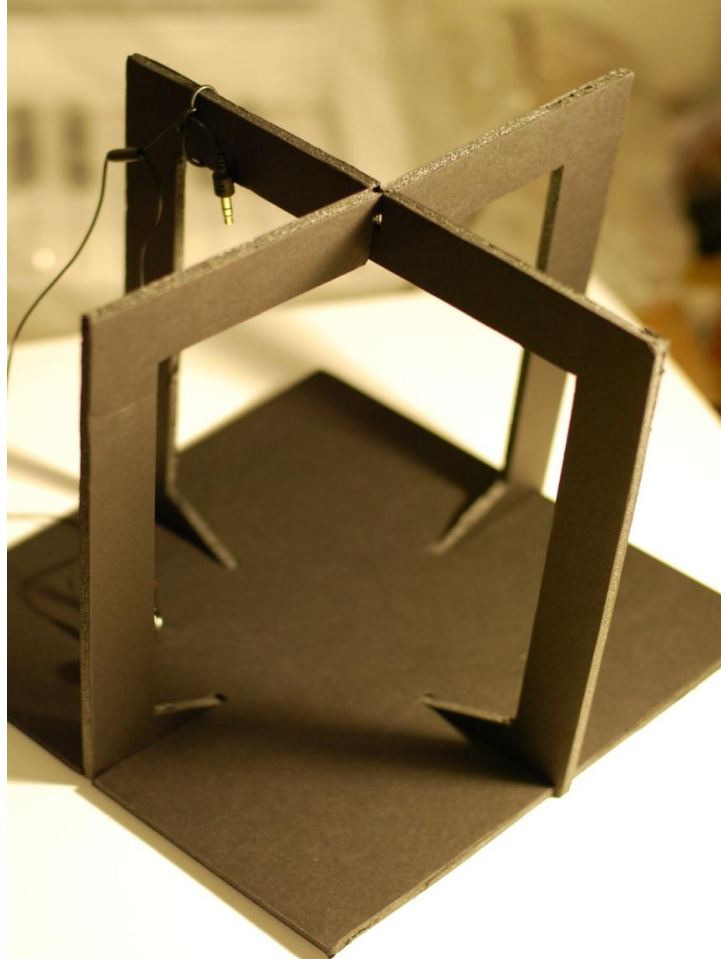
that we have a hard time living there because we have lost a lot of the traditional things, such as language, eating habits, and manners. For example, some of my friends who went back to China found that they have a difficult time re-adapting to China's culture because it is changing fast; the people they once knew have changed. Also, many villages have become cities now, which means the peaceful villages are slowly disappearing. Many of us are losing our childhood places, and I am one of them.



The second part of my project is the black record-player that is playing on top of the human head. The record is a calendar divided into three months. The headphone jack represents a needle that points to a specific date on the record, so the memory can be played through the earphones. The record-player is like flipping through a calendar of events. It represents the ability to replay one's wonderful childhood memories. Although the places and the people have changed, we still can replay the happy moments in our minds. However, after we play the childhood memories so many times, we will begin to feel depressed because of the realities we have to face in our adult lives. We will have to stop replaying our happy memories and step out to face our challenges.



The last important part of my project is the x-shaped box. The box represents how we lock ourselves into the comfort and wonderful memories of the past. If we don't break this box, we can never face the challenges of our present reality.



DANIEL MELENDEZ

Hydraulic Fracturing's Future¹

The United States has five major shale formations within its borders and there are many more around the world. Hydraulic fracturing has been around for decades but only recently has it seen the public's attention due to an increase in its practice and the controversy of fracking's exemption from the Safe Drinking Water Act of 2005. The United States' Bakken, Barnett, Eagle Ford, Haynesville, and the Marcellus shale formations have made the U.S. the number one exporter of natural gas in the world, according to the U.S. Energy Information Administration. Hydraulic fracturing may be profitable, but it has wreaked havoc on Dimock, Pennsylvania, contaminating their drinking water, and the exemption from the SDWA protects the energy industry from any responsibility to the residents of Dimock. Hydraulic fracturing is such a new process (compared to historic fracking); thus, without knowing the long-term and far-reaching effects, should we as a nation really plunge into natural gases as our new energy source?

Stanolind Oil introduced hydraulic fracturing in 1949. On March 17, 1949, the first two commercial hydraulic fracturing were done by Halliburton. Fracking didn't become widespread until the mid-1970s though. Up to the early 2000s, most fracking was on vertical gas wells with only one or two fracks per well. Now a single well may be fracked up to eighteen times. The Safe Drinking Water Act in 2005 exempted hydraulic fracturing from federal regulation, leaving regulation to the states, and the industry boomed. But hydraulic fracturing is much different now in many ways from historic fracking in that wells are no longer vertical as horizontal drilling has been incorporated. Much more water is used, the pressure is extremely higher, and fracking chemicals have become more toxic or complex.

Hydraulic fracturing is the process of injecting millions of gallons of water, sand, and chemicals, breaking apart the rock to release gas. Hydraulic fracturing is not drilling the wells: its fracking a well already dug. Fracking wells are not just vertical but also horizontal, increasing energy production exponentially. *EnergyFromShale.org* is clear on what fracking is and is not, but apparently no one is clear as to what chemicals go into fracking fluids. Fracking fluids contain 90% water, 9.5% sand, and .5% undisclosed chemicals. However, *FracFocus.org* has attempted to fix this problem and companies are disclosing the chemicals they are using (voluntarily).

Now before fracking can take place a well must be drilled. According to Gary Gartenberg, a civil and petroleum engineer, the construction process doesn't take very long, about 3 months to drill a well. Most of the work involved is the clearing of the area and the casing and cementing of the well's uppermost region to protect our groundwater. A well takes 3 months for completion but can produce for 20 to 40 years, however after the first two years of production the wells usually drop in their production.

Hydraulic fracturing is permitted on the notion that these toxic fluids produced when fracking were trapped under impervious rock, but this may not be the case. A study published in the journal *Groundwater* by Tom Myers, reveals that fracking fluids are traveling faster than we believed they would and will surface in tens of years. All rocks have natural fissures and cracks, and hydraulic fracturing only

¹ Completed under the mentorship of Prof. Donald Brown for ENG 24: Advanced Composition.

increases these cracks, breaking apart the solid shale formations. According to Myers' study, "fluids traveled distances within 100 years that would take tens of thousands of years under natural conditions" (Lustgarden, 5/1/12). From tens of thousands of years to 100 years is frightening when you begin to realize that our nation's groundwater is currently at risk for large scale contamination. We are destroying our nation for economic gain, but this is different from any other time. We will see the damage in our lifetime, we will not escape the damage we've caused and leave them for the next generation; we will suffer the consequences of our actions, we may already have.

However, many criticize Myers' approach because he uses models and simulations, as his critics claim that evidence is needed, not models. While fellow scientists slander Myers' method, the industry stone-walls any real research to be done. If these studies would prove that fracking is unsafe, the energy corporations would lose billions (Lustgarden, 01 May 2012). Myers suggests, "monitoring systems could be installed around the gas well sites to measure for change in water quality" enlightening us to the reality of what is really happening. So while we need these studies done, it doesn't seem to be that we're going to make any progress. Coal mines, gold mines, and most other mines, wells, or any kind of drilling all require a water quality test before any work begins, and this ensures that if there is any contamination, that the company will be held responsible. But fracking doesn't practice this, so when water becomes contaminated, we do not know if it was a preexisting problem or a result of fracking. Realistically, all the complaints against fracking aren't legitimate but most to all are dismissed because we do not test the water beforehand. As citizens, we need to defend ourselves against the energy industry and fight for evidence and research on fracking.

The argument that the fracking industry has begun to carry is that contamination only occurs when a well is improperly installed; therefore, a properly built well is perfectly safe. So, then who should be building these wells? Should we then make developers contract professionals with a license to build these wells? All the protests and debates aren't senseless claims and blaming any and all contamination on a faulty well just doesn't make any sense itself. Most of the time, companies won't even claim the well was faulty but claim that the area was contaminated before any drilling and fracking took place, thus excusing themselves from any liability. This is why we need to test the surrounding area and waters before hydraulic fracturing takes place, so residents will protect themselves from future ruin. Dimock, Pennsylvania was the first case to gain international attention after large scale contamination of groundwater and wells in the area occurred (Lustgraten, 3/20/12). Most the residents of Dimock didn't test their waters before the corporations began drilling, so contamination could have been preexisting and can't for sure be blamed on the fracking. Dimock is not the only place to become contaminated and we are no longer speaking in terms of years: fracking fluids already seem to be contaminating our groundwater.

Dimock, Pennsylvania, like many places all around the nation, has been leasing lands for hydraulic fracturing to the energy companies. Dimock gained widespread attention in 2009 after the town's drinking water was found to be contaminated. The extremity of the contamination in Dimock is shocking: wells were contaminated, some exploded, and tap water was flammable. Cabot Oil and Gas was fracking in the area and the state sanctioned Cabot Oil and Gas, making them provide drinking water for some of the residents of Dimock. But after a period of time, Cabot Oil and Gas stopped providing water and the residents were left to provide their own. The EPA has investigated the area and concluded that the water is not over regulations, but the EPA is giving the public and the residents of Dimock different answers. When you can light your tap water on fire, I don't think you need to test for contamination: it's obvious enough. But the EPA has tested the water and said it is safe to drink. "I'm sitting here looking at the values I have on my sheet – I'm over the thresholds – and yet they are telling me my water is drinkable," said Scott Ely. The water is drinkable, what does the EPA mean by drinkable, and how can they stand by such a statement. Mr. Ely is dismayed as most people would be by this reply that is his water was safe. The EPA seems to be trying to help but at the same time protect the energy industry. The problem is that you cannot fight for both parties when you party has to lose: the water was contaminated by fracking or it wasn't. We need the EPA to stand apart from the industry, do their job and defend our environment not our economy.

Hydraulic fracturing didn't just ruin the drinking water for Dimock residents, it ruined their

property values. These people bought their lands then signed leases to the fracking companies, gaining a decent income from just allowing some drilling. But the corporations didn't just frack their lands, they contaminated them. And "Cabot Oil and Gas informed them that rather than draining and hauling away the toxic drilling sludge stored in large waste ponds on the property, it would leave the waste, cover it with dirt and seed the area with grass"(Ian Urbina, 12/1/2011); demonstrating again the disregard that the energy industry has for their responsibilities. The industry is trying to gain the most profit possible and that is expected but we need to protect ourselves. The cost for water alone is hurting affected residents of fracking so much that the income gained from leasing their land isn't worth it at all. The energy industry is destroying the lives of the people they lease from by contaminating their water supplies and taking away all worth from their land; thus taking away their wealth.

With property values dropping due to water contamination, money lenders, banks, and mortgages begin to become cautious as to who they conduct business with. Businessmen are starting to pay more attention to leases and have started to stay away from landowners with leases. This is potentially crippling for some people because bankers won't usually take mortgages from leased property. So banks have gone as far as to making, "gas companies promise to pay for any damage caused by drilling that may lead to devaluation of its mortgaged properties", which would end up hurting the banks in the end. The bankers need this protection because most mortgages revert back to the banks and if they begin getting back property with toxic waste on them or contaminated water the property has lost its value. Some bankers have made customers agreed to not entering any leases so, as to protect their investment. Many people have leased their land without the knowledge that it was stated in their mortgage contract that they cannot enter into any leasing contract(Ian Urbina, 10/19/11). Property value, mortgages, and drilling leases are all connected and we need to find how they will work together because they are not separate but intertwined.

The gas industry has been dealing leasing contracts out that protect their interests and leave very little protection for the landowners. The New York Times reviewed 111,000 leases and found that less than half of the leases provided any assurances in the event that water contamination occurs. The leases allow the companies to drill, cut trees, and build roads all wherever they want on the property. So if you leased that part of your land away to the drilling company it is theirs to do with what they will. These leases give the companies so much leeway that they are free to do what they want, where they want and when. Companies under federal law must inform investors of the potential environmental harm but there is no such law that the landowners must be informed. Without protection, people will continue to be victims of the gas and oil industry. Most leases run a few years, but 60% of the leases reviewed allowed extensions without the approval of the landowners(Urbina and McGinty, 12/1/11). The energy company has the right to renew their lease with landowners without their consent, approval and without any negotiations, this is by far the most controversial clause in these leases. If landowners want to negotiate for more money or even if they just want the drilling on their land to stop, they have no say in the matter. When a contract nears its end the force majeure clause snares landowners in their contract as long as well development is in progress, which means very little when all the fracking company needs is to have equipment on the property for this claim to be valid. Landowners aren't protected by signing these contracts, they are attacked and targeted because the contracts are too broad and are interpreted in favor of the drilling companies. We need to protect landowners and pass consumer protection laws that cover fracking, ensuring that landowners don't lose everything for entering a bad contract.

Fracking is such a new process that legislation hasn't had the necessary time to catch up and regulate the industry. But as most new industries, the fracking industry has been fighting state regulation because economic gain is more important than safety of the people. The American Legislative Exchange Council, or ALEC, is a non-profit organization that promotes legislation in favor of energy corporations. ALEC has stated in various ways that they don't want federal regulation on fracking and want fracking to remain under state supervision. ALEC's 2009 resolution was to retain state dominance over hydraulic fracturing, which transparently shows their goals. The Safe Drinking Water Act, passed in 2005, exempted fracking from its mandates, and ALEC is only increasing the deregulation of the energy industry(Currier, 4/24/12). We have seen what the banks would do to our country, we need Congress to

protect the welfare of America. As citizens, we need to fight in Congress for our rights and protect ourselves from harmful practices. Hydraulic fracking saw an economic boom after the SDWA was passed. Properly disposing of waste is expensive, without regulation and with the increased profits the energy industry may be cutting corners. In a capitalist nation the government needs to regulate the market and their practices because corporations try to be as profitable as possible so, the government must protect us from any abuses these corporations commit. The goal of any business is to make money but many CEO's are fueled by greed and make their profits at any cost so, we need our government, our guardian. Federal regulation doesn't add needless cost to our industry: it adds needed supervision and protection.

FracFocus is a website that collects the list of chemicals used in hydraulic fracking. FracFocus is run by Ground Water Protection Council and Interstate Oil and Gas and is only a year old. FracFocus' purpose is to collect and gather the list of chemicals used in hydraulic fracking, it is a chemical disclosure registry(FracFocus.org). FracFocus, at first glance, seems to be an act of good will on behalf of the fracking industry, but instead it is a gimmick. It is a gimmick because the fracking industry is using loopholes to hide the chemicals that they are using. Then FracFocus lists the chemicals but only the positive uses they have for fracking, these are dangerous toxins, but they are being treated as ingredients for dinner. Fracking companies aren't registering all the chemicals used, claiming that they're trade secrets. The problem is that without a complete list of toxins being pumped into the ground, how can we properly test the surrounding water supplies? How can we allow the fracking companies to protect their "trade secrets" when these chemicals could potentially destroy our groundwater supplies across the nation?

As hydraulic fracturing continues to increase across the nation and the globe we need to do something about all this waste water. The waste waters from fracking, has high levels of toxicity and are also radioactive in high levels. Recycling waste water practices have been adopted, but we still end up with massive amounts of water that must be disposed of properly. Some methods of recycling leave behind salt or sludge, so the salt and sludge is being sold as road salt during winter to de-ice the roads. But this isn't just salt, its radioactive chemicals and other toxins: what happens to the waste water after its spread on the roads? When the ice melts and when it rains, where does the sludge go? When the sludge runs off the roads it "can be dangerous to people and aquatic life if they get into waterways"(Ian Urbina, 3/1/11 pg.1). Using the sludge leftover from recycled waste water is great for cities especially since the companies are selling it cheaply, but we cannot spread toxic salt across our highways and roads without expecting adverse effects.

Chief operating officer of Aqua-Pure/Fountain Quail Water Management Brent Halldorson states, "No one wants to admit it, but at some point, even with reuse of this water, you have to confront the disposal question," he continues, "but there still needs to be a candid discussion, and there needs to be accountability about where even the recycled waste water is going"(Urbina, 3/1/11). We may recycle the waste water but we cannot recycle all of it. Most of the water used in fracking doesn't surface right away; in the first few weeks about 10-40% of the water surfaces(Urbina, 3/1/11). But most of it stays underground longer and the longer the waste water is underground the toxic it becomes. The most popular way to dispose of waste water is dumping it in injecting wells, which are wells that are just pumped full of waste water. This is shocking because we are dumping millions of gallons of toxic water into the earth without any second thought. How can we seriously put poison into the earth and think it won't come back at us. Waste water recycle is no fix, but it helps and with public pressure; recycling has exponentially increased to 65% from 20%, in 2011 from only 12 months previously(Ian Urbina, 3/1/11 pg.2). Waste water recycling isn't enough but it has proved to lessen the harm we have been placing on the environment and make fracking friendlier to the environment.

In 2009, the president of Pennsylvania Oil and Gas Association, Steve Rhoads inquired with regulators as to how "drilling waste, regardless of how it was handled, would remain exempt from the federal law governing hazardous materials." The drilling companies claim that without the exemption they would have to "rigorously" test their hazardous materials at a great expense for them. They would probably also have to ship their waste to Idaho or Washington state, where hazardous materials with high radioactivity levels are allowed to stored. But federal regulators told the drilling companies that they were

still covered from the Safe Drinking Water Act and the exemption extends to the leftover sludge after the water is recycled. State regulators refuse to comment because this is a state issue. But federal regulators claim the sludge and salts are regulated by the states. We cannot have two leaders, two rules; federal rule surpasses state authority so, we need the federal government to take control of fracking regulation. We cannot have both governments passing blame onto one another. The federal government is already involved so, the drilling industry needs to let go of the dream of state regulation. With federal regulation there will be one law, no room for debate and then hydraulic fracturing can be properly regulated.

The push into hydraulic fracturing has hurt other alternatives such as wind power energy. Wind power is one of the fastest growing and clean energy sources along with solar. Wind and solar have been receiving a federal stimulus package and that package ends this year, but the wind companies still need government support for a few years while they get a firm holding in our energy infrastructure. Wind power is a great clean and renewable energy but it has two problems: wind doesn't blow all the time and the wind is the strongest in remote areas, like open plains and off the coast. For some time, there has been a push for coastal wind turbines that would sit a few miles off the coast. This can create a potentially clean new energy source that is accessible to our big coastal cities. But many aren't pushing for any wind farms because fracking has provided us with a new energy source. It is exactly this narrow mindedness for fracking that is hurting alternative energy projects. Wind power is a clean and renewable source of energy that is being overshadowed by hydraulic fracking. Fracking may be helpful to get natural gas and oil, but it is not a clean and renewable energy source and we to continue refining and developing our technology for clean energy.

Hydraulic fracturing has seen a boom across the states because in a time of tight budgets, state governments seem psyched about natural gas possibilities. Fracking not only gives us a new domestic energy source that we can depend on, but it has revitalized the economy of the states where it is practiced. With the royalties paid out to the state residents, the taxes collected on fracking, and the taxes on those royalties the states want fracking to continue (Urbina and McGinty, 12/1/11). But fracking regulation and leases are allowing the energy companies to abuse the residents of these states. The states don't want to all together get rid of fracking, though some want more regulation and supervision over fracking. In a time of economic difficulty, fracking has created a surplus in the state budgets where it is practiced and has created numerous jobs for our struggling job market. While fracking does create jobs and increase state funds, the states still need to regulate fracking. We cannot trade money for our homes. Legislation should be passed to decrease environmental risk and to protect landowners. Fracking is an environmental nightmare, but it does boost the economy in our times.

As shale gas expands across the United States, the energy companies are starting to set their sights on foreign countries for prospective drilling grounds. And many foreign countries are eager to begin drilling for shale gas and become independent. But some of these countries are jumping into fracking too fast without understanding the environmental dangers; all they understand is the possible economic gain (Urbina, 12/30/11). These are mainly economically challenged or undeveloped countries that are seeking another way to power their cities. Countries in very dry areas that already have problems supplying themselves with water need to think about what they embark on. The effects on fracking is local as well so while the government will prosper, local farmers dependent on their water will be devastated.

When we discovered the use of steam, coal, and oil we pushed ahead with it every time. Every time we found a new energy source that is cheaper and better we plunged into it. As a nation, we show little to no regard with what we do to the environment, which usually always suffers from our actions. How can we jump into things head first without knowing the long term effects of what we are doing? Bill McKibben writes, "The world didn't change. In fact, for the last decade, even as the science of climate change has grown endlessly more robust, our country in particular has done next to nothing about it. We burn more fossil fuels than we did a decade ago,...we are nothing short of a rogue nation when it comes to global warming" (pg.348). So, even as we have learned about climate change and learned that we caused it we still do nothing, is fracking the America's next big mistake and will our world's water suffer for our ignorance. Then we have the audacity to again plunge into another fuel source when it is likely that it is

contaminating our groundwater supplies. We may not know for sure if fracking is responsible for water contamination directly, but we don't know enough to rule it out. But what we do know is that after a well has been fracked in an area the waters become contaminated sometimes, so we have great coincidences. As a nation we need to take responsibility for our actions and as a world power we should lead by example, instead of being a contradiction. Fracking has many environmental risks and we need to act before we repeat our mistake with global warming; we need to act now before it is too late.

The EPA has been conducting research, finding evidence of contamination, but when the final reports go out that evidence is missing. The EPA conducts their research but when it is time to send out the reports, pressure from politicians and the industry makes the EPA alter their findings or leave things out altogether. Powerful people are buying their way around federal regulation, EPA studies have been repeatedly narrowed in scope and important findings have been removed (Urbina, 3/1/11). How can we regulate an industry that owns the agency that regulates it? A study that is currently taking place will look for evidence that hydraulic fracturing is causing contamination in our drinking waters. But history is repeating itself since the EPA has narrowed their research to exclude treated waste water dumped in rivers and losing an incredibly important part of their study. We need to know if our rivers are contaminated and what the cause is so, that if they are contaminated we can fix the problem. The EPA is continually being undermined by politics and they are losing credibility because they are undermined and then they are contradicting.

The Safe Drinking Water Act regulates all industry that deal with harmful chemicals and drilling but not hydraulic fracturing. Hydraulic fracturing is the only exemption, but why? Hydraulic fracturing, if it were not exempted, would in itself be a violation of the SDWA because it is the process of injecting millions of gallons of waters into the ground laced with toxic chemicals. The drilling companies will fight with everything they have because without this exemption they don't have an industry. It is disappointing though that our leaders would pass such a law, knowing full well of the potential environmental dangers they would be exposing us to.

Many see hydraulic fracturing and see economic rejuvenation as the one in the same. They see the large amounts of exceed natural gas and then they think the economy is doing great. Nadeau writes, "environmental economists generally presume that the health of these economies is sensitively dependent on the consumption of increasingly larger amounts of environmental resources" (pg. 114) but consumption of natural resources doesn't guarantee a healthy economy. This ideology is not only bad, it isn't sustainable. Whatever economy we have it must be sustainable and we cannot not do so if we consume at our highest levels. Moderation and conservation is needed for any sustainable and healthy economy. But hydraulic fracturing gathers as much gas as possible and uses extremely high levels of water: it is not a good practice for a sustainable economy.

Hydraulic fracturing is such a new process that we need to know more about it, but we do know that it is a risky endeavor to practice. Fracking comes with many environmental risks to our waters and we need to address them before we continue to increase the amount of wells being drilled and fracked. E.P.A has been pressured politically to alter information and reports so, we need to champion our cause and find out the truth and search for the facts. Hydraulic fracking cannot be undertaken as an all in energy source, we cannot stop pursuing clean alternative energy such as wind and solar. While fracking may be environmentally dangerous it has however created jobs in a tough economy and has been an economic blessing for the states that do frack. Fracking is environmentally harmful and maybe it shouldn't be completely outlawed, but fracking needs to be regulated and greatly reduced. Fracking has given us a domestic fuel source and jobs in a tough economy but ultimately fracking is harmful and shouldn't be conducted.

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MARIANNA HERNANDEZ

The Dead Sea Scrolls: Authenticity of Authorship¹

Abstract

In 1947, amidst the partition of the Palestinian State, in Israel, a Judean shepherd, made a staggering discovery, the Dead Sea Scrolls were finally uncovered. Since then, scholars, archaeologists and a group of highly trained research specialists have sought to put the pieces of the scrolls together so that every nook and cranny of the fragments will be connected. A large debate centers mainly on the authenticity of authorship. The Essenes are the most accepted authors to date. The Dead Sea Scrolls are one of the most extraordinary discoveries of all time and this essay is meant to shed light on who actually wrote the Dead Sea Scrolls. It will examine Judean history in order to help the reader understand the ancient world of the Hebrews which produced the scrolls.

“The discovery of the Dead Sea Scrolls represents a turning point in the study of the history of the Jewish people in ancient times, for never before has a literary treasure of such magnitude come to light.” – Dr. Adolpho D. Roitman, Head Curator, Israel Museum in Jerusalem

History of the Discovery of the Scrolls

They were the Brothers and Sisters in white. To the Hebrews they were “The School of Prophets” and to the Egyptians, they symbolized “Healing.” The sect had property in nearly all of Jerusalem, and there was even a special door that had their name engraved in stone: the “Essenes,” it read. The Jewish group was known for their devotion to the poor and those who suffered. The greatest prophets seceded from their school of thought.

In 1947, three bedraggled shepherds were herding a flock of goats in the Judean Desert in an area known as Qumran, northwest of the Dead Sea, at the time that the region was under the British Mandate in Palestine. One of the herdsmen, who were part of the Ta’amireh tribe, Jum Muhammad Khalil, tossed a rock at an opening to a cave in the hills to the west of the plain and heard pottery shatter. ²

¹ Completed under the mentorship of Prof. Stephen Petrus for HIS 51: The Ancient World.

² The Dead Sea Scrolls Today, 2nd Edition, James C. VanderKam, 2010 (1st Edition, 1994) pg. 4

The Bedouins did not approach the cave until one of them, Muhammad Ed-Dhib, returned to the location a few days later, and upon entering discovered ten jars. Eight of these two-foot-high cylindrical vases with tureen-shaped lids did not contain anything. However, the others did. One contained dirt and the other had three scrolls, two of which were encased in linen. Consequently, these parchments were later recognized as copies of the "Biblical Book of Isaiah," the "Manual of Discipline," and an annotation of the "Tale of Habakkuk."

The shepherds found four supplementary scrolls, a compilation of psalms, including the "Thanksgiving Hymns"/" Hymns Scroll" (Hodayot), a copy belonging to the "Book of Isaiah," the "War Scroll" (text foretelling the concluding battle between the "Sons of Light," and the "Sons of Darkness"), and the "Genesis Apocryphon"(accounts from Genesis). These [random] fragments of ancient parchment would subsequently reveal to the world the [famous] Dead Sea Scrolls.

Not being aware of the [exact] significance of their finding, the cattlemen took the scrolls to an antiquities dealer, Khalil Iskander (Kando), in Bethlehem. He purchased them and then sold them to Athanasius Yeshue Samuel, the Archbishop of the Syrian Orthodox Christian Church, for sixty dinars (\$250 U.S. dollars). The area was undergoing crucial changes at the time, coinciding with the separation of Palestine and the continual threat of war. Samuel was sent overseas . He made efforts to sell the parchments for five years, but was unsuccessful.

Finally in 1954, seven years after their discovery, an archaeologist at a Hebrew University, Yigael Yadin, bought the scrolls. The fragments included "The War of the Sons of Light against the Sons of Darkness," the "Thanksgiving Hymns," and a second, poorly preserved copy of Isaiah. Yadin purchased them from the Archbishop Samuel, contributed invaluable research to the Hebrew University and then donated the scrolls to the State of Israel. He was instrumental in finding a permanent home for them in the Shrine of the Book Exhibit in the Israel Museum of Jerusalem.

Yadin's father, E.L. Sukenik, was the first scholar to acknowledge the scrolls' significance. He was the first to recognize one of the scrolls as the earliest surviving manuscript of Isaiah, to document it and confirm his data through the Carbon-14 analysis.³ His records showed that they were at least a thousand years older than the earliest known copies of Isaiah.

After their initial discovery, the herdsman continued to seek out more caverns on the West End of the Dead Sea and after six years they found more scrolls in Khirbet Qumran. One cave housed the scrolls of seven to eight hundred manuscripts, and about eighty fragments, many of them fragile and in poor condition.

Today, thanks to a project at the Israel Museum of Jerusalem called the "Dead Sea Scrolls Digital Project," which is working in conjunction with Google.com, the scrolls are researched by more scholars than ever before.⁴ This world-famous collection now includes the "Great Isaiah Scroll," the "Community Rule Scroll," the "Commentary on Habakkuk Scroll," the "Temple Scroll," and the "War Scroll."

"The Great Isaiah Scroll' is the most ancient Biblical manuscript on earth," stated Dr. Adolpho D. Roitman, Head Curator of Israel Museum's Shrine of the Book. The exhibit has served as a haven for the scrolls since its inception in 1965.⁵ The parchments are light-sensitive and are preserved and displayed in the Shrine of the Book Exhibit.

Determining the Authenticity of the Scrolls

³ The Message of the Scrolls, Yigael Yadin, Simon and Schuster, New York, 1957, Third Printing, pg. 16, 18

⁴ The Digital Dead Sea Scrolls (2012) The Israel Museum of Jerusalem, James S. Snyder, Director of the Israel Museum <http://dss.collections.imj.org.il/project>

⁵ After 2,000 Years, The Dead Sea Scrolls Online, Dr. Adolpho D. Roitman, Lizbeth and George Krupp Curator, Israel Museum of Jerusalem, http://dss.collections.imj.org.il/dss_video

According to the Israel Museum of Jerusalem, historical, paleographic, and linguistic data along with carbon-14 dating indicate that the Dead Sea Scrolls date back from the third century B.C.E., during the times of the Second Temple, to the first century C.E. approximately 65 C.E., encompassing the period of Jesus of Nazareth. The scrolls, according to Roitman, are attributed to “an isolated Jewish sect,” referenced in the scrolls as “the Community,” who resided in Qumran in the Judean Desert region. Throughout decades of extensive research, archaeologists, such as Father Roland de Vaux of the *Ecole Biblique*, a French Dominican School in Jerusalem, and scholars, Dr. J. Bieberkraut, and William Brownlee (of the American School of Oriental Research in Jerusalem) were among many experts who collaborated in order to investigate the fragments.⁶

Dr. Bieberkraut, for instance, was a Jewish refugee from Germany who specialized in ancient scriptures, assisted in analyzing every fragment. He discovered an apocalyptic narrative, in Hebrew, of a conflict between the “Sons of Light” (presumably the Hebrews) and the “Sons of Darkness” (surrounding nations, Edomites, Moabites, and Syrians).

Another scholar, John C. Trever, a Yale Fellow, became one of the first [scholars] to photograph the scrolls in 1948.⁷ Trever described the process of examining the scrolls as being an extremely delicate and cautious procedure: “...The last two columns, being on a single sheet of parchment, had become separated from the rest when the thread with which it had been sewn had disintegrated.”⁸

Trever’s expertise in the field became invaluable because of his detailed, diligent, and scrupulous dissection of the scrolls. His high quality camera lens was able to provide scholars with an opportunity to see the scrolls in a whole new light, and detect what they possibly could have missed with the naked eye.

The scrolls were predominantly written in Hebrew, but with portions in Aramaic and Greek. The majority of the scrolls, which were written on parchment, except for a few being on papyrus, survived as fragments. Only a few small sections were virtually intact. Approximately 850 different manuscripts of various lengths have so far been reconstructed.⁹

Throughout the [nine] years of extensive research, a crew of archaeologists and scholars were determined to find the truth behind the authenticity of authorship in regard to the scrolls. The question of who wrote these documents and why they were hidden for so many centuries baffled them. The scrolls have become one of the most crucial archaeological discoveries of the twentieth century. The manuscripts reflect an array of literary elements, such as biblical commentary, legal specifications, liturgical scripts, and most fascinating, the apocalyptic compilations.

Most scholars believe that the sect that authored the scrolls were the Essenes- a small community that lived in Qumran. However, research still continues about the true origins of the Essenes.

The Essenes, (Ancient Hebrew: עֲסִימִי- Isiyim, Greek: Εσσηνοι, Essenoi) were a Jewish sect well known during the time of the Second Temple, from the 2nd century B.C.E. to the 1st.C.E. Some scholars believe that the group descended from the Zadokite priests (Tzadok צדק – Righteous), who succeeded Eleazar, the son of Aaron, known for his help to King David in a revolt that ultimately gave King Solomon the crown.¹⁰

⁶ The Message of the Scrolls, Yigael Yadin, Simon and Schuster, New York, 1957, Third Printing, pg. 36, 37, 38

⁷ The Dead Sea Scrolls Today, 2nd Edition, James C. VanderKam, 2010 (1st Edition, 1994) pg. 2, 4

⁸ The Message of the Scrolls, Yigael Yadin, Simon and Schuster, New York, 1957, Third Printing, pg. 33

⁹ The Digital Dead Sea Scrolls (2012) The Israel Museum of Jerusalem, James S. Snyder, Director of the Israel Museum <http://dss.collections.imj.org.il/project>

¹⁰ The Dead Sea Scrolls In English, Geza Vermes, 1970, pg. 17, 18

In turn, when Solomon built the First Temple in Jerusalem, Zadok was the first High Priest. The Essenes were among a number of major Jewish sects at the time, including the Pharisees and the Sadducees, but they were fewer in numbers, in comparison to the other two groups.

According to historical records, thousands lived in different cities throughout the Roman Judean period. They took pride in congregational communal life dedicated only to Judaic studies, voluntary subsistence living, daily bathing, eschatological, messianic, ascetic practices, and, for some, celibacy.

However, despite popular assumptions that the Dead Sea Scrolls originated with the Essenes, prominent Israeli scholars, such as Rachel Elior, have questioned the very premise of why this particular sect would even be connected to the scrolls.

According to her, there is no reference to them in any of the contemporary texts of their times. There is not even a reference to them in the Old Testament.¹¹ While the story of the High Priest does reflect Biblical reference, there is no evidence of the correlation between the Zadok and Essenes “myth.”

Moreover, even during the earlier days of scroll research, there were reservations on whether the Essenes really did write the manuscripts.¹² Thorough accounts of the organization given by Flavius Josephus, Pliny the Elder, and Philo Judaeus, could not really fit with the description of the writers, found in the “Manual of Discipline” and the “Damascus Document.” There are, however, those who support the theory that the Essenes were the originators of the scrolls.

Kurt Schubert, professor of Jewish religion and culture at the University of Vienna, concluded that the sectarians who had authored the scripts were, in fact, the Essenes. He affirmed that the authors did not necessarily have to fit the description exactly as had they had been described.

Of the existence of the Essenes there is little doubt. The Jewish historian, Josephus (37-100 C.E.), had documented a detailed account of the Essenes in his autobiography. He listed that there were three groups of Jews: the Sadducees, Pharisees, and the Essenes. He described the last group as numbering four thousand and being a righteous assembly of people. No members of the sect had more possessions than another. Pliny (23 –79 C.E.), a Roman historian, stated that the Essenes lived apart from the world on the west side of the Dead Sea. “The palm trees were their only companions.” Philo, an Alexandrian Jew, who lived and wrote about the same time as Jesus of Nazareth, praised the moral excellence of the group, which spent much of their time studying ethics and law. But the authorship of the scrolls is another matter.

One theory suggests that the scrolls are a random collection of texts reflecting the beliefs of many Jewish groups of the period. The caves, according to this theory, were a hiding spot for sacred texts from various Jewish communities fleeing the Romans during the Jewish revolt of 68 A.D.

Additionally, proving that the Essenes actually resided near the caves where the scrolls were discovered has been a difficult process.¹³ Approximately three-quarters of a mile west of the Dead Sea, there are ruins known to scholars as the Khirbet Qumran. These remnants of habitation are linked with “the City of Salt” mentioned in Biblical text (Joshua 15:61). The caves that housed the scrolls were identified as Cave 1 through Cave 11. When the earliest archaeological team first visited Cave 1, in 1949, the mission was to figure out whether there was any connection between the scrolls and Khirbet Qumran.

¹¹ Scholar: The Essenes. Dead Sea Scroll ‘authors,’ never existed..., May 13, 2009

<http://www.haaretz.com/print-edition/news/>

¹² Secrets From the Cave, A Layman’s Guide to the Dead Sea Scrolls, Thurman L. Coss, 1963, Abingdon Press and New York Nashville, pg 13.

¹³ Second Thoughts on the Dead Sea Scrolls, F.F. Bruce, M.A., D.D., Rylands Professor of Biblical Criticism and Exegesis in the University of Manchester, 1964, pg 47, 48

An excavation was made but no evidence was presented. Two years later, three rooms of a ruined building were dug out, during which time beneath the floor of one of them, a jar was discovered similar to the one found in Cave 1, and alongside it, a coin dating 10 C.E. The team realized that there was a link after all.

It became recognized that the ruins symbolized an actual gathering place for a long-lost “community.” Father de Vaux, who was a part of the team of archaeologist at the site, announced his conviction that it belonged to the Essenes. Near the ruins, a cemetery is located. It is believed to contain the remains of this community, because no other was known to have devised a north-south-oriented burial for approximately 1200 graves.

At Khirbet Qumran, walls and various types of pottery were uncovered that date back to the Iron Age II (eighth and seventh century B.C.E.). One of the items discovered was inscribed with Phoenician characters and with a royal seal stamp, which was utilized for writing Hebrew during that period. A notable argument by De Vaux, in support of the Essene’s authorship of the Scrolls, observed that the ruins were the only ones known in the area between Jericho and En-Gedi which Pliny the Elder had described as an area where the sect lived, on the west shore of the Dead Sea. The building in many ways was suitable for holding assembly meetings, kitchen use, a scriptorium, and product manufacturing. Over 1,000 kitchenware items, including kilns, had been discovered which then led to the supposition that the jars containing the scrolls might have been manufactured at the site. Inkwells were also found during the dig. The caves could have been resting stations for the presumable scribes.

Evidence of the dating of the Scrolls can be found from the most accepted cause of devastation of the site which was attributed to an earthquake, dated in 31 B.C.E.,¹⁴ during a time of war between King Herod the Great and his Arabian rivals in the Jordan region, according to Josephus’s description of the era. Since then, 650 coins of the Graeco-Roman period have been discovered, which give timelines to the Essenes’ occupation of the area. The timeline begins with the rule of Seleucid King Antiochus VII (139-129 B.C.E.), includes the reign of Herod’s son Archelaus (4 B.C.E.- 6 C.E.) during the Roman era, Tiberius (14-37 C.E.) and [comes towards the] ends during the rule of the overseers of Judea under Claudius (44-54 C.E. and Nero (54-66 C.E). Seventy-three coins belonged to the second year of the Judean revolt (66-70 C.E.) which concluded with the destruction of the Second Temple.

According to Millar Burrows, a highly qualified expert on the scrolls, the identity of the authorship of the scrolls has been a real brain twister throughout the years for many scholars. No matter how much evidence has been presented for the *concrete* well-documented hypotheses, the arguments continue and the issue is far from being closed. The greatest debate of authorship still lies among the four Jewish sects: the Essenes, the Pharisees, the Sadducees, and the Samaritans. Burrows agreed that there is not enough proof despite a large variety of data that Essenes are the real writers of all of the scrolls.

Were the Essenes the Authors of the Scrolls?

After studying the original finds at Qumran, followed by numerous others at areas such as Khirbet Qumran and Khirbet Mird, the long-awaited question of whether the Essenes were responsible for writing at least a significant portion of the scrolls was finally answered. It is popularly accepted that the sect wrote Enoch, the "Testaments of the Twelve Patriarchs," and the "Assumption of Moses." However, the question was still raised as to whether they were in fact the Qumran sect that populated the area and deposited the scrolls into the caves.

It has already been established that Pliny the Elder¹⁵ was a fervent advocate of the Essenes’ authorship: “To the west (of the Dead Sea) the Essenes have put the necessary distance between themselves and the insalubrious shore. They are people unique of its kind "and admirable beyond all

¹⁴ Second Thoughts on the Dead Sea Scrolls, F.F. Bruce, M.A., D.D., Rylands Professor of Biblical Criticism and Exegesis in the University of Manchester, 1964, pg 53, 54

¹⁵ The Essene Writings from Qumran, A. Dupont-Sommer, 1973, pg. 37

others in the whole world...” Consequently, when studying the historical background of this group, a passage located in the text, gives as much evidence of their influence as possible: “And the Sons of Zadok are the Elect of Israel called by name that arise in the End of Days.” The reference to the “Sons of Zadok,” allows for a better understanding of the association between the Essenes and the scrolls, for that is what the members of the sect referred to themselves. They called their good deeds [obligation], “Zadokite Work.” The members were later recognized for maintaining power in the Jerusalem temple, and had served as high priests from the time of its reconstruction (around 515 B.C.E.). The Second Temple was being rebuilt following the Babylonian exile and a revolt that occurred during the times of Antiochus IV.¹⁶

In a live interview Herschel Shanks, a Biblical Scholar, stated that even though he is not an expert on the Dead Sea Scrolls [but] that “he is an expert on the experts.” His judgment started leaning towards the scrolls being written by the Essenes after applying his expertise to the evidence and countless statements made by his colleagues.

Within the Judeo-Christian tradition, the Dead Sea Scrolls are one of the most important Biblical discoveries of all time, for they include manuscripts or fragments of every book of the Old Testament. About these preliminary facts few Dead Sea scholars disagree, but beyond the skepticism, the issue revolves around the questions of who wrote and maintained the various scrolls. The latter established theory is that the library was maintained, compiled, and most of its sectarian literature written, by the group.

Two significant and opposing theories regarding the Dead Sea Scrolls argue over the nature of the ancient manuscripts. The first theory was developed only a few years after the manuscripts discovery in 1948. It maintained that the scrolls were writings sealed away in caves due to the earthquake previously referred to in 31. B.C.E. It was claimed that the scrolls origins come from a site known as Khirbet Qumran, located near where they were found.¹⁷

This theory held true for over three decades and became prevalent in much of the manuscript research. The second theory argued that the origin of the manuscripts stems from a Palestinian Jewish writing, originally established in multiple libraries in Jerusalem and then transferred to the Judean caves, due to the threat of the Roman siege of the city in 70 A.D. Such a debate began in 1969 during a Jerusalem lecture and has since appeared in articles and a book in 1995.

It cannot be proven whether the sect actually wrote the Scrolls, because the manuscripts do not have an organic connection with any specific group. No manuscript has a definite reference to the Essenes. The Jerusalem origin could not have been proven either by any of the first editions of the seven Scrolls.

The hypothesis that the "Manual of Discipline" (Community Rule), for instance, was an Essene manuscript, presented by Prof. Sukenik, and supported by Roland de Vaux, cannot be proven. Certainly there are questionable issues inherent in the theory. For example, De Vaux's claims that the Scrolls were hidden once the Roman troops were en route to Jericho, to attack, but nothing was ever explained as to why they were hidden northward of Jericho, closer to the direction of the oncoming brigade rather than away from it. Yadin claimed that the Essenes brought the manuscripts to the caves.

These arguments have led to the newly popular belief that the Scrolls could have been only produced in a heavily populated area of cultural acquisition, which prove that Jerusalem is their most likely origin. Exhibitions of the Scrolls, such as the one in the Israel Museum of Jerusalem, have failed to provide concrete evidence of the origins of authorship.

Nevertheless, whether they authored the Scrolls or not, data collected throughout the world has shown the many influences of this group on the religious thought of the period and later. For instance, in

¹⁶ Rethinking the Historical Jesus, Vol. III, John P. Meier, 2001, pg. 394

¹⁷ Norman Golb, Oriental Institute, University of Chicago, 2008, The Current New York Exhibition of the Dead Sea Scrolls: An Appraisal

1553 an Eastern Syriac branch of the Catholic Church, which [kept] maintained ties with Rome, established the Chaldean Catholic Church and based it upon some of the Essenes' teachings. Other links to the sect include Zoroaster, Hermes Trismegistus, and Moses, who led the Jews out of Egypt. The origin of Hermes Trismegistus ("Thrice Great"), author attributed to the Hermetic Corpus, is a compilation of ancient texts that explain the concept of Hermeticism.

Another link between the Scrolls to other works is found in the "Prayer of Enosh and Enoch," which consists of ten fragments, found in Cave 4. They are a compilation of prayers, the first linking to Enosh, line 10 in fragment 1 and column 1 mentioning Enoch. The original Aramaic texts of the Book of Enoch were found in Caves I, II, and IV at Qumran. There is a complete Ethiopic translation and a few different chapters in Greek that exist today. In Cave 4, seven copies, such as the "Ethiopic Enoch," and four copies of the "Book of Giants" were discovered. These scripts date between 200 B.C.E. and the end of the pre-Christian era.

In Caves 4 and 5, at Qumran, two extremely fragile columns and several small fragments of the scroll that discuss the "Divine Plan" for the Conquest of the Holy Land were found. The script is in correlation with Joshua because it lists passages that appear in Joshua 15-21. The Conquest of Zion by David and the building of the Temple are also located in the text. It is a day appointed by Him from ancient times to signify the battle for the "Sons of Darkness." On that day the Congregation of the Gods and the Congregation of Men shall engage one another, resulting in great carnage (1QM 1:10-11).

Thus, the war of annihilation is linked in the text, since it is predetermined to reveal the power of the divine inspiration. Significantly, the conflict, described in the "War Scroll," is not violent; there is no actual description of a combat. In fact, this is a liturgical war, faithfully sanctified and glorified as an act of religious consecration.

In the present day, scholars such as James H. Charlesworth, director of the Dead Sea Scrolls Project and who also teaches New Testament language at Princeton Theological Seminary stated that a small portion of scholars have significant amount of evidence in proving that Essenes really did write the scrolls.¹⁸

Conclusion

The argument about authorship has set an invaluable precedent in the world of archaeological discovery, religious understanding, and has sparked a deeper spiritual meaning in both Jewish and Christian followers. In the 21st Century, the concept of Essenism and its values has long died out. Its strict doctrines failed to adapt to the challenge of the catastrophic events of Palestinian Judaism in 70 C.E. In fact, the Essene ideals of "perfect holiness," lacked the strength which empowered the continuing Orthodox Judaism to survive through the centuries. The Scrolls hold the key to uncovering the long-lost evidence of their generation.

The answer to the question of who actually wrote the Scrolls can never be truly answered because there is still not enough evidence to prove their authorship. The most common theory and acceptable belief is that the authors of these manuscripts are most likely to be the Essenes.

Bishop John Cole, of the Christian Gnosis, stated that both the Dead Sea Scrolls at Qumran and the Nag Hammadi Codices of Egypt (a collection of thirteen ancient codices that contained over fifty scripts, discovered in Egypt in 1945,) provided an immense amount of resources to link the Essenes to the first unit of the Christian Gnostics. Early Christians believed that the term New Testament stemmed from the Essenes term "The New Covenant." The Messianic Meal, which was an established tradition of the group, became known as the Eucharist, modeled after the Last Supper, which shows that the group had a tremendous amount of influence on both religions.

As with many issues involving ancient history and texts of disputable origins, the authorship of such artifacts will often be questioned. Unlike scientific laws that can be proven empirically when the

¹⁸ The Dead Sea Scrolls Origin Spark Debate, 2009, Aaron Hosios, <http://www.dailyprincetonian.com/2009/03/27/23174/>

identical processes produce identical results, the variety of interpretations of data, origins and provenance of these documents moves from initial theorizing to disagreement and speculation. Although the authenticity of their authorship might never be determined definitively, the value of the Dead Sea Scrolls lies in the insights they provide of an ancient world from whose common origins much of our faiths descend.

Determining Skewness of Turning Points for Polynomial Functions¹

Abstract

In this paper, we study the behavior of the turning points for certain polynomial functions. In particular, we are interested in understanding how the x – coordinate of a turning point between two zeros skews from the midpoint of the interval bounded by the zeros. We will study polynomial functions of the form $f(x) = (x - a)^m(x - b)^n$ and $f(x) = (x - a)^m(x - b)^n(x - c)^p$.

Introduction

The goal of this paper is to understand why the turning point(s) of certain polynomial functions behave the way they do. Suppose $f(x) = (x - a)(x - b)$, where $a < b$ are the zeros of f . It is well-known that the turning point of a parabola of the quadratic function $f(x) = (x - a)(x - b)$ has x – coordinate $\frac{a+b}{2}$, which is just the midpoint of $x = a$ and $x = b$ (the zeros of f) on the x –axis. What if a polynomial function has more than two linear factors? Is it the case that each of its turning points whose x – coordinate is between a pair of consecutive zeros equals the midpoint of the interval whose endpoints are those zeros? For instance, are the x – coordinates of the turning points of the function $f(x) = (x - a)(x - b)(x - c)$, where $a < b < c$, the midpoints $\frac{a+b}{2}$ and $\frac{b+c}{2}$ of the intervals (a, b) and (b, c) , respectively. The answer is no. Instead, the x –coordinate of each turning point tends to skew away from the respective midpoint. In this paper, we will study the proposed problem for certain polynomial functions. In particular, we consider polynomial functions which factor into either two or three distinct linear factors, each raised to positive integer powers.

1) Functions of the form $f(x) = (x - a)^m(x - b)^n$ (where $a < b$)

To find the x – coordinates of the turning points of a polynomial function f , we find its derivative f' and solve the equation $f'(x) = 0$. The derivative of $f(x) = (x - a)^m(x - b)^n$ is:

$$f'(x) = m(x - a)^{m-1}(x - b)^n + n(x - a)^m(x - b)^{n-1}.$$

Solving the equation $f'(x) = 0$ gives the x -coordinate of the turning point between $x = a$ and $x = b$ to equal $\frac{a^2 + ab + b^2}{a + b}$.

To find the deviation of this value from the midpoint $\frac{a+b}{2}$ of (a, b) , we subtract $\frac{a^2 + ab + b^2}{a + b}$ from $\frac{a+b}{2}$ and obtain $\frac{(a-b)(a-b)}{2(a+b)}$.

¹ Completed under the mentorship of Prof. S. Majewicz for MAT 15: Calculus 1.

We use this formula to determine the skew in various cases. Suppose $m < n$. Since $a < b$, we see that $\frac{(b-a)(b-a)}{2(a+b)} > 0$. Thus, $\frac{a+b}{2} > \frac{a^2+ab}{a+b}$; that is, the x – coordinate of the turning point will occur to the left of the midpoint.

Suppose now that $m > n$. Then $\frac{(b-a)(b-a)}{2(a+b)} < 0$, and thus, $\frac{a+b}{2} > \frac{a^2+ab}{a+b}$. Therefore, the x – coordinate of the turning point will occur to the right of the midpoint. Note that if $m = n$, then $\frac{(b-a)(b-a)}{2(a+b)} = 0$, implying that the turning point will occur when $\square = \frac{a+b}{2}$, the midpoint of (a, b) . To illustrate this, let us look at the function $f(x) = (x - 2)^m(x - 4)^n$:

- 1) If $m = n = 1$, then f is quadratic. Since the graph is a parabola, the turning point will have x – coordinate $x = 3$, which is exactly the midpoint of $(2, 4)$.
- 2) Setting $m = 1$ and $n = 2$, the turning point will now skew away from the midpoint and have x – coordinate $x = 2.6667$, which is, as predicted, to the left of the midpoint (see Figure 1).

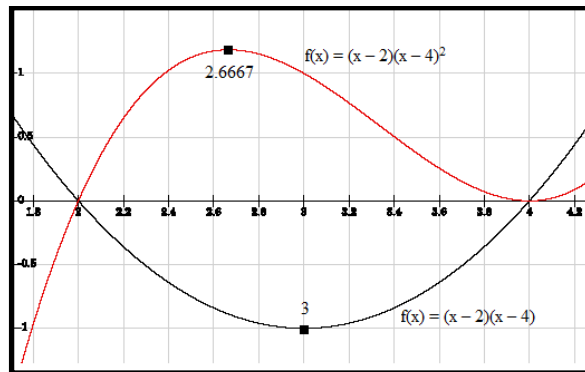


Figure 1

- 3) If $m = 2$ and $n = 1$, then the turning point will have x – coordinate $x = 3.3333$, exceeding the midpoint (see Figure 2).

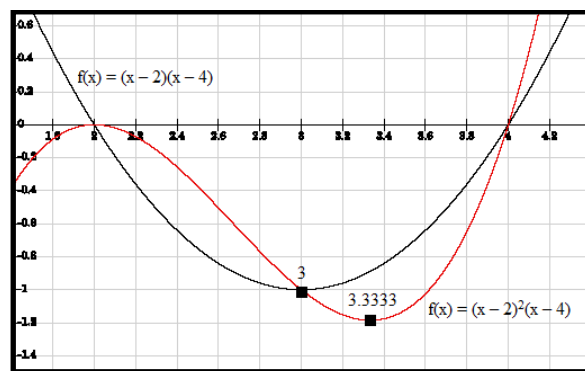


Figure 2

Taking this one step further, we can determine the behavior of the turning point when the exponents m and n are very large. We do so by taking limits:

$$\lim_{n \rightarrow \infty} \frac{a^2 + ab}{a + b} = \lim_{n \rightarrow \infty} \frac{a + \frac{a^2}{b}}{\frac{a}{b} + 1} = a \quad \lim_{m \rightarrow \infty} \frac{a^2 + ab}{a + b} = \lim_{m \rightarrow \infty} \frac{\frac{a^2}{m} + a}{1 + \frac{a}{m}} = a$$

This shows that for the polynomial function $f(x) = (x - a)^m(x - b)^n$, $a < b$, the x - coordinate of the turning point in (a, b) of f will be skewed away from the zero which arises from the factor which was raised to a larger power.

To illustrate this, let $f(x) = (x - 2)(x - 4)^n$, and let T.P. denote the x - coordinate of the turning point. Then:

$$n = 10 : \text{T.P.} = 2.1818 \quad n = 50 : \text{T.P.} = 2.0392 \quad n = 100 : \text{T.P.} = 2.0198$$

Observe that T.P. gets closer to $a = 2$ as n gets larger. This agrees with the limit calculation. If we now consider $f(x) = (x - 2)^m(x - 4)$, we see that:

$$m = 10 : \text{T.P.} = 3.8182 \quad m = 50 : \text{T.P.} = 3.9608 \quad m = 100 : \text{T.P.} = 3.9802$$

As the limit calculation confirms, T.P. gets closer to $b = 4$ as m gets larger.

II) Functions of the form $f(x) = (x - a)^m(x - b)^n(x - c)^p$ (where $a < b < c$)

As before, we solve the equation $f'(x) = 0$ to obtain the x - coordinates of the turning points on the intervals (a, b) and (b, c) . A calculus computation shows that

$$f'(x) = m(x - a)^{m-1}(x - b)^n(x - c)^p + n(x - a)^m(x - b)^{n-1}(x - c)^p + p(x - a)^m(x - b)^n(x - c)^{p-1}.$$

Setting this derivative equal to zero and solving gives us two turning points, (aside from those that may arise at the zeros). One will have x - coordinate in the interval (a, b) , and the other in the interval (b, c) . These x -coordinates are:

$$\frac{(\square + \square + \square) \pm \sqrt{(\square + \square + \square)^2 - 4(\square + \square + \square)(\square\square + \square\square + \square\square)}}{2(\square + \square + \square)}$$

Due to the complexity of these values, we only consider certain cases.

Case 1: Set $m = n = p = 1$. Then $f(x) = (x - a)(x - b)(x - c)$. In this case, the two turning points have the

following x - coordinates: $= \frac{(\square + \square + \square) \pm \sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{3}$. It can be shown algebraically that

$\frac{(\square + \square + \square) - \sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{3}$ is in the interval (a, b) and, furthermore,

$\frac{(\square + \square + \square) + \sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{3}$ is in the interval (b, c) .

We can immediately determine that these x - coordinates are skewed from the midpoint of (a, b) and (b, c) algebraically, by subtracting them from their respective midpoints and seeing if they are positive or negative.

For the turning point on (a, b) :

$$\frac{\square + \square - 2\square + 2\sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{6}.$$

$$\frac{\square + \square}{2} - \frac{(\square + \square + \square) - \sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{3} =$$

This quantity can be shown to be positively valued whenever $a < b < c$. This implies that on the interval (a, b) , the x - coordinate of the turning point is less than the midpoint of (a, b) ; that is, the turning point skews to the left of the midpoint.

For the turning point on (b, c) :

$$\frac{-2\square + \square + \square - 2\sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{6}.$$

$$\frac{\square + \square}{2} - \frac{(\square + \square + \square) + \sqrt{\square^2 + \square^2 + \square^2 - \square\square - \square\square - \square\square}}{3} =$$

One can show algebraically that this is always negatively valued whenever $a < b < c$. This means that the x - coordinate of the turning point on (b, c) is greater than the midpoint of (b, c) ; that is, the x - coordinate of the turning point skews to the right of the midpoint.

To illustrate this, let us look at the function $f(x) = (x - 2)(x - 4)(x - 6)$. The midpoints of the two intervals are $x = 3$ in $(2, 4)$, and $x = 5$ in $(4, 6)$. However, the turning points will have x - coordinate $x = 2.8453$ and $x = 5.1547$, respectively (see Figure 3). Notice that $2.8453 < 3$ and $5.1547 > 5$.

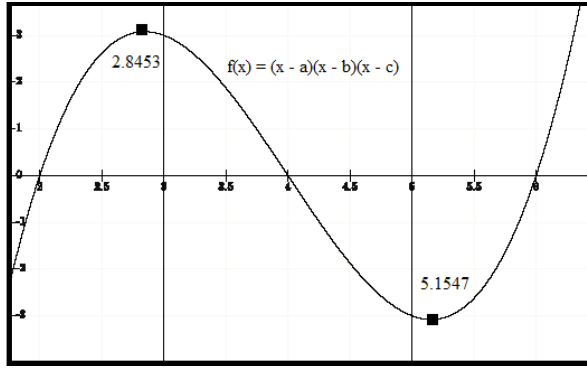


Figure 3

The above seems to show that for the function $f(x) = (x - a)(x - b)(x - c)$, the turning point between two consecutive zeros will be affected by the third zero. This raises the question: Does the *value* of the third zero have an effect on the skewness of the turning point between the two consecutive zeros?

To illustrate the effects of the value of the third zero, let's fix $a = 2$ and $b = 4$, and allow c to grow very large. We see that the turning point on (a, b) will occur as follows:

$c = 8$: T.P. = 2.9023 $c = 50$: T.P. = 2.9893
 $c = 100$: T.P. = 2.9948

Figure 4 illustrates the cases when $c = 6$ and $c = 8$.

Figure 4

Likewise, if we fix $b = 4$ and $c = 6$, and allow a to be increasingly small, the turning point on (b, c) will occur as follows:

$a = 0$: T.P. = 5.0972 $a = -50$: T.P. = 5.0091
 $a = -100$: T.P. = 5.0048

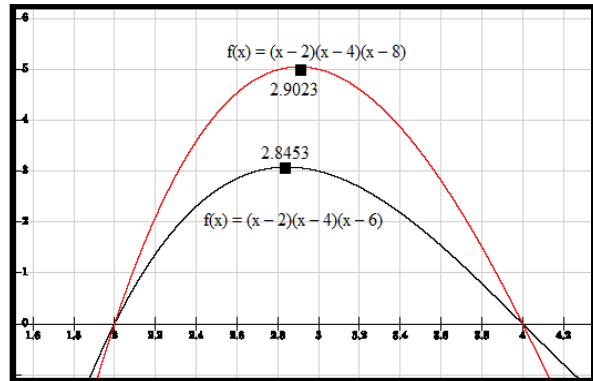


Figure 5 illustrates the cases when $a = 2$ and $a = 0$.

Figure 5

Figures 4 and 5 indicate that as the third zero gets farther away from the other two, the x - coordinate of the turning point that lies between the two fixed zeros will approach the midpoint of the fixed interval.

This can, in fact, be proven by taking limits: For the x - coordinate of the turning point between a and b , when c grows infinitely large:

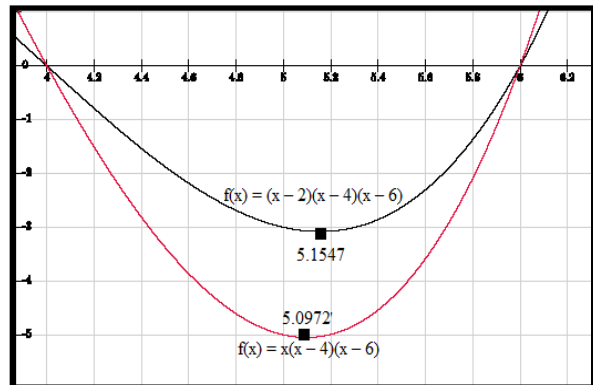
$$\lim_{c \rightarrow \infty} \frac{(\square + \square + \square) - \sqrt{\square^2 + \square^2 + \square^2 - \square \square - \square \square - \square \square}}{3} = \lim_{c \rightarrow \infty} \frac{(\square + \square + \square)^2 - (\square^2 + \square^2 + \square^2 - \square \square - \square \square - \square \square)}{3(\square + \square + \square) + 3\sqrt{\square^2 + \square^2 + \square^2 - \square \square - \square \square - \square \square}}$$

$$= \frac{\square + \square}{2}$$

For the x - coordinate of the turning point between b and c , when a grows infinitely small:

$$\lim_{a \rightarrow -\infty} \frac{(\square + \square + \square) + \sqrt{\square^2 + \square^2 + \square^2 - \square \square - \square \square - \square \square}}{3} = \lim_{a \rightarrow -\infty} \frac{(\square + \square + \square)^2 - (\square^2 + \square^2 + \square^2 - \square \square - \square \square - \square \square)}{3(\square + \square + \square) - 3\sqrt{\square^2 + \square^2 + \square^2 - \square \square - \square \square - \square \square}} = \frac{\square + \square}{2}$$

In summation, for a polynomial function $f(x) = (x - a)(x - b)(x - c)$ ($a < b < c$), the turning point whose x - coordinate lies between two of the zeros will be affected by the third zero, and will not equal



the midpoint of their interval. However, the farther away that third zero gets from the other fixed zeros, the closer the x – coordinate of the turning point will be to the midpoint.

Case 2: Set $n = p = 1$ and $m > 1$. Then $f(x) = (x - a)^m(x - b)(x - c)$. In this case, the two turning points have the following x – coordinates:

$$\frac{(2a + mb + mc + b + c) \pm \sqrt{4a^2 + b^2 + c^2 + 2mb^2 + 2mc^2 + m^2b^2 + m^2c^2 - 2m^2bc - 4mbc - 4ab - 4ac + 2bc}}{2(m + 2)}$$

To illustrate the effects that raising the factor $(x - a)$ to a power $m > 1$ has on the turning points, let's look at the function $f(x) = (x - 2)^m(x - 4)(x - 6)$:

Table 1
The figures in Table 1 indicate that as

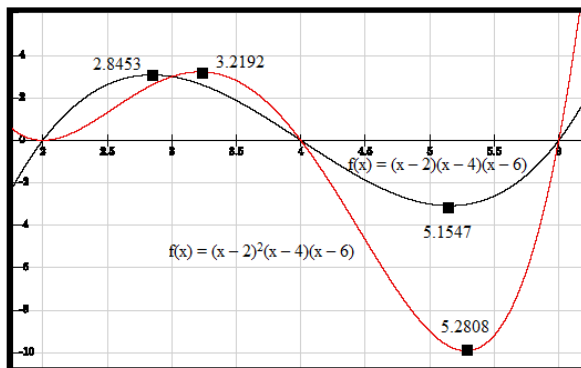
	$m = 2$	$m = 10$	$m = 50$	$m = 100$
T.P. on (a, b)	3.2192	3.8035	3.9600	3.9800
T.P. on (b, c)	5.2808	5.6965	5.9246	5.9612

the first factor, $(x - a)$ is raised to higher powers, the x – coordinate of the turning points in both intervals (a, b) and (b, c) tend away from $a = 2$, and toward $b = 4$ and $c = 6$, respectively (see Figure 6).

Figure 6 illustrates the cases when $m = 1$ and $m = 2$.

Figure 6

We can prove this in general by taking limits. For the x – coordinate of the turning point on (a, b), we have:



$$\lim_{m \rightarrow \infty} \frac{(2a + mb + mc + b + c) - \sqrt{4a^2 + b^2 + c^2 + 2mb^2 + 2mc^2 + m^2b^2 + m^2c^2 - 2m^2bc - 4mbc - 4ab - 4ac + 2bc}}{2(m + 2)} = b.$$

For the x – coordinate of the turning point on (b, c) we have:

$$\lim_{m \rightarrow \infty} \frac{(2a + mb + mc + b + c) + \sqrt{4a^2 + b^2 + c^2 + 2mb^2 + 2mc^2 + m^2b^2 + m^2c^2 - 2m^2bc - 4mbc - 4ab - 4ac + 2bc}}{2(m + 2)} = c.$$

In addition, we can study the behavior of the turning points as c grows very large, or a shrinks very small when m is fixed, by taking limits.

For the turning point on (a, b):

$$\lim_{c \rightarrow \infty} \frac{(2a + mb + mc + b + c) - \sqrt{4a^2 + b^2 + c^2 + 2mb^2 + 2mc^2 + m^2b^2 + m^2c^2 - 2m^2bc - 4mbc - 4ab - 4ac + 2bc}}{2(m + 2)} = \frac{a + b}{m + 1}.$$

For the turning point on (b, c):

$$\lim_{a \rightarrow -\infty} \frac{(2a + mb + mc + b + c) + \sqrt{4a^2 + b^2 + c^2 + 2mb^2 + 2mc^2 + m^2b^2 + m^2c^2 - 2m^2bc - 4mbc - 4ab - 4ac + 2bc}}{2(m + 2)}$$

$$= \frac{\square + \square}{2}$$

Case 3: Set $m = p = 1$ and $n > 1$. Then $f(x) = (x - a)(x - b)^n(x - c)$. In this case, the two turning points have the following x - coordinates:

$$\frac{(na+a+2b+nc+c) \pm \sqrt{4b^2+a^2+c^2+2na^2+2nc^2+n^2a^2+n^2c^2+2n^2ac-4nac-4ab+2ac-4bc}}{2(n+2)}$$

To illustrate the effects that raising the factor $(x - b)$ to a power $n > 1$ has on the turning points, let's look at the function $f(x) = (x - 2)(x - 4)^n(x - 6)$:

Table 2

The figures in Table 2 indicate that as the factor $(x - b)$ is raised to

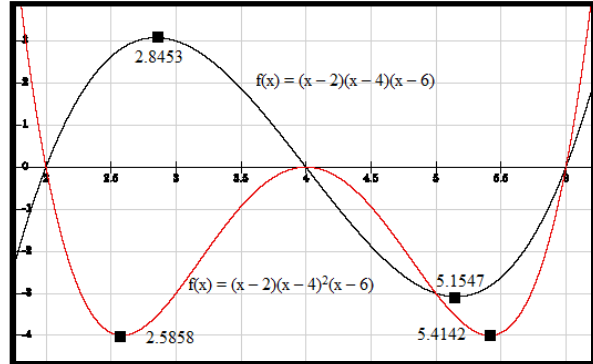
	$n = 2$	$n = 10$	$n = 50$	$n = 100$
T.P. on (a, b)	2.5858	2.1743	2.0388	2.0197
T.P. on (b, c)	5.4142	5.8257	5.9612	5.9803

higher powers, the x - coordinates of the turning points in both intervals (a, b) and (b, c) tend away from $b = 4$, and toward $a = 2$ and $c = 6$, respectively (see Figure 7).

Figure 7 illustrates the cases when $n = 1$ and $n = 2$.

Figure 7

Again, we can prove this by taking limits. For the turning point on (a, b) :



$$\lim_{n \rightarrow \infty} \frac{(na+a+2b+nc+c) - \sqrt{4b^2+a^2+c^2+2na^2+2nc^2+n^2a^2+n^2c^2+2n^2ac-4nac-4ab+2ac-4bc}}{2(n+2)} = a.$$

For the turning point on (b, c) :

$$\lim_{n \rightarrow \infty} \frac{(na+a+2b+nc+c) + \sqrt{4b^2+a^2+c^2+2na^2+2nc^2+n^2a^2+n^2c^2+2n^2ac-4nac-4ab+2ac-4bc}}{2(n+2)} = c.$$

Taking the limit of the x - coordinates of the turning points as c grows or a shrinks when n is fixed. For the turning point on (a, b) :

$$\lim_{c \rightarrow \infty} \frac{(na+a+2b+nc+c) - \sqrt{4b^2+a^2+c^2+2na^2+2nc^2+n^2a^2+n^2c^2+2n^2ac-4nac-4ab+2ac-4bc}}{2(n+2)} = \frac{\square + \square}{\square + 1}$$

For the turning point on the interval (b, c) :

$$\lim_{a \rightarrow -\infty} \frac{(na+a+2b+nc+c) + \sqrt{4b^2+a^2+c^2+2na^2+2nc^2+n^2a^2+n^2c^2+2n^2ac-4nac-4ab+2ac-4bc}}{2(n+2)} = \frac{\square + \square}{\square + 1}$$

Case 4: Set $m = n = 1$ and $p > 1$. Then $f(x) = (x - a)(x - b)(x - c)^p$. In this case, the two turning points have the following x - coordinates:

$$\frac{(pa+a+pb+b+2c) \pm \sqrt{4c^2+a^2+b^2+2pa^2+2pb^2+p^2a^2+p^2b^2+2p^2ab-4pab+2ab-4ac-4bc}}{2(p+2)}$$

To illustrate the effects that raising the factor $(x - c)$ to a power $p > 1$ has on the turning points, let's look at the function $f(x) = (x - 2)(x - 4)(x - 6)^p$:

Table 3

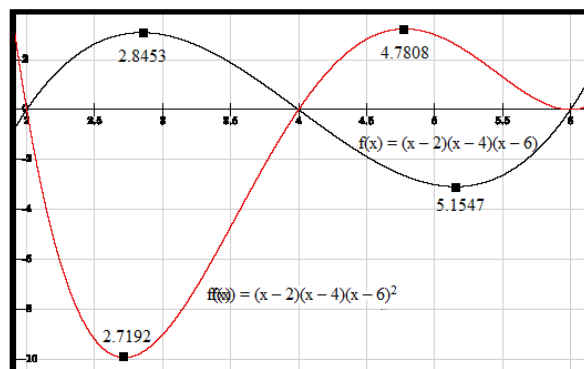
The figures in Table 3 indicate that as the factor $(x - c)$ is raised to higher powers, the $x -$ coordinates of the turning points in both intervals (a, b) and (b, c) tend away from $c = 6$, and toward $a = 2$ and $b = 4$, respectively (see Figure 8).

	$p = 2$	$p = 10$	$p = 50$	$p = 100$
T.P. on (a, b)	2.7192	2.3035	2.0754	2.0388
T.P. on (b, c)	4.7808	4.1965	4.03	4.02

Figure 8 illustrates the cases when $p = 1$ and $p = 2$.

Figure 8

Once again, we can prove this by taking limits. For the turning point on (a, b) :



$$\lim_{p \rightarrow \infty} \frac{(pa+a+pb+b+2c) - \sqrt{4c^2+a^2+b^2+2pa^2+2pb^2+p^2a^2+p^2b^2+2p^2ab-4pab+2ab-4ac-4bc}}{2(p+2)} = a.$$

For the turning point on (b, c) :

$$\lim_{p \rightarrow \infty} \frac{(pa+a+pb+b+2c) + \sqrt{4c^2+a^2+b^2+2pa^2+2pb^2+p^2a^2+p^2b^2+2p^2ab-4pab+2ab-4ac-4bc}}{2(p+2)} = b.$$

Once again, we will take the limit of the $x -$ coordinate of the turning points as c gets larger or a gets smaller when p is fixed.

For the turning point on (a, b) :

$$\lim_{c \rightarrow \infty} \frac{(pa+a+pb+b+2c) - \sqrt{4c^2+a^2+b^2+2pa^2+2pb^2+p^2a^2+p^2b^2+2p^2ab-4pab+2ab-4ac-4bc}}{2(p+2)} = \frac{\square + \square}{2}.$$

For the turning point on (b, c) :

$$\lim_{a \rightarrow -\infty} \frac{(pa+a+pb+b+2c) + \sqrt{4c^2+a^2+b^2+2pa^2+2pb^2+p^2a^2+p^2b^2+2p^2ab-4pab+2ab-4ac-4bc}}{2(p+2)} = \frac{\square \square + \square}{\square + 1}.$$

In summation, from cases 2 – 4 we observe that the turning points of a function with three linear factors will behave in the same manner as a function of two linear factors when one factor is raised to a power. That is, the x – coordinates of the turning points will skew away from the zero derived from the factor that was raised to a power, and tend toward the other zeros. In addition, we find that when a factor is raised to fixed exponent, that exponent will have an effect on the effect of changing the value of any of the zeros. Meaning, from case 1 we see that changing the value of a third zero affects the x – coordinate of the turning point in the interval bounded by the other two zeros; as the value increases, the turning point moves *closer* to the midpoint. However, from cases 2 – 4 we see that raising a factor to a power has the opposite effect; the higher the value of the exponent, the *farther* from the turning point will be from the midpoint. The limits we took show that the skew of the x – coordinate of the turning points will be balanced by both the value of third zero and the value of the exponent.

Now, going back to our original function $f(x) = (x - a)^m(x - b)^n(x - c)^p$; ($a < b < c$), where the x – coordinates of the turning points were:

$$\frac{(na+pa+mb+pb+mc+nc) \pm \sqrt{(na+pa+mb+pb+mc+nc)^2 - 4(m+n+p)(pab+nac+mbc)}}{2(m+n+p)}$$

we can generalize, and prove through taking limits, that the turning points will react to an increase in the value of an exponent in the same manner as we observed in cases 2 – 4.

On the interval (a, b), the limit of the x – coordinate of the turning point:

as m grows very large, approaches b .

as n grows very large, approaches a .

as p grows very large, approaches a .

On the interval (b, c), the limit of the x – coordinate of the turning point:

as m grows very large, approaches c .

as n grows very large, approaches c .

as p grows very large, approaches b .

In addition, we can take limits as the value of c grows or the value of a decreases. This will show that the skew will be affected both by the value of the third zero and by the values of the exponents that the factors were raised to, as we saw in cases 2 – 4.

The limit of the x – coordinate of the turning point on (a, b) as c grows very large, approaches $\frac{\square\square+\square\square}{\square+\square}$.

The limit of the x – coordinate of the turning point on (b, c) as a decreases, approaches $\frac{\square\square+\square\square}{\square+\square}$.

In conclusion, we have studied the polynomial functions $f(x) = (x - c)^m(x - b)^n$ and $f(x) = (x - a)^m(x - b)^n(x - c)^p$. The results we obtained are sufficient to answer the proposed question.

AKSANA SAMOYLOV

Sea Gate: A Unique Seaside Community, Then and Now¹

Introduction

If your vision of Sea Gate is a small isolated or gated community, then be prepared for one beautiful surprise after another. I hope that this paper will open some new facts that might make you wonder and better understand why this neighborhood is called unique by its residents.

I deliberately want to start my paper with some rhetorical questions. What qualities and characteristics define the term neighborhood? What do I mean by saying it is my neighborhood? And what are the main “traits” that make each neighborhood special and different from the other ones?

If we do simple research, we find out that some sources describe a neighborhood as an area surrounding a local institution patronized by residents, such as a church, a school or social agency.² No

¹ Completed under the mentorship of Prof. Avri Beard for SOC 32: Urban Sociology.

² *This definition of neighborhood is adapted from gnocdc.org*

While studying the archives, I suddenly spotted an interesting poem by Walt Whitman who was regarded as one of America’s most significant nineteenth century poets, grew up in Brooklyn and wrote in his poem “Crossing Brooklyn Ferry”¹ the following words:

*“...The glories strung like beads on my smallest sights and hearings, on the passage over the river,
The current rushing so swiftly and swimming with me far away,
The others that are to follow me, the ties between me and them,
The certainty of others, the life, love, sight, hearing of others.
Others will enter the gates of the ferry and cross from shore to shore,
Others will watch the run of the flood-tide,
Others will see the shipping of Manhattan north and west, and the heights of Brooklyn to the south and east,
Others will see the islands large and small;
Fifty years hence, others will see them as they cross, the sun half an hour high,
A hundred years hence, or ever so many hundred years hence, others will see them,
Will enjoy the sunset, the pouring-in of the flood-tide, the falling-back to the sea of the ebb-tide...
...Flow on, river! Flow with the flood-tide, and ebb with the ebb-tide!
Frolic on, crested and scallop-edged waves!
Gorgeous clouds of the sunset! Drench with your splendor me, or the men and women generations after me!
Cross from shore to shore, countless crowds of passengers!
Stand up, tall masts of Manhattan! Stand up, beautiful hills of Brooklyn!
Throb, baffled and curious brain! Throw out questions and answers!
Suspend here and everywhere, eternal float of solution! ...*

doubt that the concept of neighborhood includes both geographic and social components. For example, neighborhood can be used to refer to the small group of houses, locating in the outskirts of city, or to a larger area with modern buildings, stretching up into the sky. A neighborhood can be secluded or gated, rapidly growing or changing; recently designed or keeping some historical sites; and rich or economically dependent on funds. In any case, a neighborhood represents people who live in that area. And, in fact, its residents quite frequently have a very different personal perception and mental map of their neighborhood.

I personally would define *neighborhood* as an “alive organism,” which is pulsing with people and where all life crucial aspects, such as economical and political life, safety, demographic make-up and geographic position, are interconnected and depend on each other. Also, any neighborhood has its own history, period of establishment and growth, development and sometimes decline. In other words, any even very small community has its past, present and, hopefully, its future. And the only criteria that brings changes – positive or negative – to any neighborhood is its population.

People help their neighborhood grow and flourish by making decisions, keeping traditions, bringing in new ideas and money for investment, and raising new generations. To the contrary, big migration of residents to new places can drastically affect a neighborhood, so that it can even vanish.

To learn about Sea Gate, I had to start from its past and dig deep into its “life” to collect all the tiny facts and details that at the end would interconnect, like puzzle pieces, and make a full picture of that area. So, my “journey of exploration and discoveries” gave me an idea to begin with studying old publications and vintage collections in case there is something that serves as a first step or foundation. And I found it.

History of Sea Gate

The history of Sea Gate starts more than a century ago and brings us back to the time when New York was under the influence of two major factors – the beginning of the Industrial Revolution and immigration from Europe, which both boomed the development and expansion of some areas and neighborhoods in New York and Brooklyn.

As it is said on the official website of Sea Gate Association, Sea Gate had its historical beginnings around 1892, six years before the unification of the five boroughs into a greater New York City, as a part of Coney Island with its really unique topographical location. Being stretched about 7 miles southerly from New York City, at the extreme entrance to its harbor and facing the Atlantic Ocean, it comprised the land with border of ocean-washed beaches of fine white sand.³

“But long before that date, during the mid-1800s, Coney Island was a place that attracted a lot of famous people, including P.T. Barnum, Herman Melville, Washington Irving, and Daniel Webster. The west end of the island, where the lighthouse was to be built, attracted quite a different crowd, and was a very rough area known for its gambling. The growing popularity of Coney Island meant increased ferry traffic to deliver people there and further development. A lighthouse was needed to guide boats headed for the island’s piers.”⁴

Around 1840s, the Norton Point Land Company began construction of a private residential community. The area that is now Sea Gate was also known as Norton's Point. “The name came from the owner of a casino where the Coney Island Light now stands. This company purchased all of the land west of West 37th Street in Coney Island and during the next seven years constructed and sold various homes

After reading this great piece, I thought to myself that maybe those beautiful sights of Brooklyn to the south and east, those great sunsets and mighty clouds that inspired the poet was the great panorama of an area that is uniquely located in Brooklyn and bounded by the Atlantic Ocean on the south side and Gravesend Bay on the north side of this triangular peninsula. Maybe, the poet mentioned the distant shore of Sea Gate in this poem, too. Who knows?

³ Information is adapted from the official website of Sea Gate Association, [www.Sea Gatebrooklyn.com](http://www.SeaGatebrooklyn.com).

⁴ Adapted from the book *History of Kings County*

within Sea Gate to several wealthy families”, wrote Arnold Rosen in his book *Sea Gate Remembered*. Land was sold to clans with such prominent names as Vanderbilt, Dodge, and Morgan, who built Sea Gate into an exclusive summer resort community.⁵

In 1898, *The New York Times* wrote, “...Sea Gate, with its natural adventures for summer resort swept in very truth by ocean breezes, with its outer beach ever washed by the long Atlantic swell and its inner beaches kissed by the still waters of Gravesend Bay, begin to improve to the present attractive and pretty resort, with its well-laid out roads and pavements, its rows of handsome colonial houses and Atlantic Yacht Club.”

In 1899, several of the families who owned homes in the community joined together to buy all of Sea Gate from Norton’s Point Land Company. On July 5th, 1899, a Certificate of Incorporation was issued by the State of New York for the formation of a private corporation known as the Sea Gate Association that still runs Sea Gate. The association put up two gates and a fence around its perimeter, creating one of the first gated communities in New York City and in the country.

Sea Gate Today

So, what is Sea Gate like today? The best description that I could find was given in *The New York Times* in 1898:

...Sea Gate is a natural barrier, thrown up by the waves of old ocean through countless centuries, between the broad Atlantic and the placid waters of Gravesend Bay, in which the ships might ride in safely, secure from storms. The beach is a fine one, looking over the waters of the Lower Bay and green Staten Island hills...But Sea Gate has more than a fine beach and ocean breezes to make it a favorite summer resort. No more varied, moving panorama than is daily unfolded before its residents can be found the wide world over. From the Navesink Highlands to the southwest, the long, low blue line of New Jersey hills sweeps to the west and fades in the distance. To the north lies Gravesend Bay, with its fringe of hotels and cottages...; to the east, Coney Island, with its domes and towers, and to the southeast and south spread out the blue waters of the open ocean...After a visit there, one feels when the cool ocean breeze blows over Sea Gate sands, bringing life and health and vigor...

More than a hundred years have passed since the publication of that article, but those words still perfectly match what we can see, being in Sea Gate. Probably, I would just mention that the houses and cottages became higher and the passing by ships grew bigger. But they still slowly float along the sandy beach and disappear in the horizon. Somewhere in the distance, the tall skyscrapers of Manhattan, like huge steel giants, hold the sky on their shoulders. And the Verrazano Bridge, like a long arch, stretches from Brooklyn to Staten Island, linking them together. But sometimes, the low thick fog swallows the bridge, hills of Staten Island and Manhattan’s view with its modern innovations and what left is the blue waters of the open ocean, just like hundreds years ago. Amazing, isn’t it?

Today, after more than a hundred years of growth and development, the size of Sea Gate stayed pretty much the same. There are some geographical facts about Sea Gate from its association. “It extends for approximately $\frac{3}{4}$ of a mile from West 37th Street on the east and to Beach 46th Street on the west. Its beaches vary in width from 100 to 300 feet. Sea Gate still covers an area of about $\frac{1}{2}$ of a square mile, or approximately 150 acres. At present, there are approximately 860 structures in Sea Gate. Other community facilities which are owned and operated by the Association include: association office, police lodge, police booths, chapel, beaches, and Lindberg Park.”⁶ In other words, the territory of Sea Gate is “bordered” by West 37th Street even today and did not expand in any direction. Neither were built any

⁶ Information is adapted from the official website of Sea Gate Association, [www.Sea Gatebrooklyn.com](http://www.SeaGatebrooklyn.com).

industrial or commercial buildings inside Sea Gate nor schools or entertainment. For some residents, Sea Gate is just a nice summer resort. For the others, it continues to be the escape from the hectic and noisy life of New York City. But, there are also those who think of Sea Gate as their “gated fort” and home.

“In the 1890's and the early 1900's, Sea Gate was in its glory as a resort, with its mansions – many designed by Stanford White – porches and grand gardens, and visitors such as Diamond Jim Brady and Douglas Fairbanks Sr. Four of the houses that were designed by White are still standing,” emphasized R. Radomsky in her article about Sea Gate, “but by the Depression time, the community had fallen on hard times and many summer retreats had already been converted into boarding houses and summer apartments.”⁷ However, in the recent decades, the “face” of Sea Gate has changed drastically thanks to new people who come to Sea Gate to live there. They build new houses, improve the old ones and, as a result, increase the value of property in the community. There are many new three-story houses that stand out because of their rich architectural designs, fancy decorations, luxurious accommodations, and grand entrances. It seems that expensive materials and modern technologies were used to create them. However, the majority of houses in Sea Gate were built long before 1950's. Some of them are still in good condition, with some “visual signs of aging” and full of spirit; the spirit of that time when the community was just established. I call them “lucky survivors” of the last century. Those houses are big and rare, with grand colonial style structures, bunches of flowers that trim porches and gigantic trees that guard, shade and keep the houses away from the curious eyes of passing by residents.

Unfortunately, I cannot be positive about all those houses. You can still easily find very old cottages and overgrown gardens scattered in different corners of Sea Gate, waiting for new owners to discover them. Different houses and styles reflect different people who move in and settle in Sea Gate. So, who are those folks? Let's look at the statistics from different decades.

According to statistics, the population of Sea Gate is not as diverse as the mood of the ocean waters that surround it. In 2000, the majority of population was white (about 91%). There is also a mix of minorities, including Hispanics, Blacks, and Asians. About 80 percent of the residents are Jewish – a quarter of them Hasidim. In recent years, Polish and Russian immigrants have been moving in from nearby Brighton Beach. If we look carefully at population graphs in years 2000, 1980 and 1950, then we notice the obvious change in the percentage of white population. According to the census data, there were 99% of whites in 1950 and this number is slowly decreasing overtime. What does that mean for the community and for people who live there? Does Sea Gate become more open and welcoming to anybody who wants to settle in it? And was Sea Gate just a gated community or was it at the same time segregated? Those are pretty tough questions to be answered by one person, because none of the sources gave me clear answers to them. I just can share my own guess.

So, was Sea Gate constructed as a gated community in 1899? Yes, it was. Was the primary idea to establish it as a segregated neighborhood? Maybe. Then from whom did they want to be separated and why? Let's go back to some historical facts again. The Norton Point Land Company began construction of a *private* residential community. Then the company purchased all of the land and during the next seven years constructed and sold various homes within Sea Gate to several *wealthy* families. Land was sold to clans with *prominent* names, who built Sea Gate into an *exclusive* summer resort community. As you see, I deliberately highlighted four of the above words – private, wealthy, prominent and exclusive, because they might be the key words. So, what could some really wealthy and powerful white people do with the newly constructed exclusive resort at that time? They might want that area to be secluded and gated for the purposes of safety, protection and privacy. And even today, those three top factors make people of any color move to more segregated neighborhoods.

Do closed gates guarantee safety and privacy? And can the fence shield residents from all the problems? Probably, it cannot. In her article “Gated communities as Heterotopias”, Setha Low said,

The reasons people decide to move to a gated community are extremely varied ... People move because of their fear of crime and others. They move to have control of their

⁷ From article “If You're Thinking of Living in: Sea Gate” by R. Radomsky, published on April 17, 1988.

environment and of the environment of those who live nearby...The gates are used symbolically to ward off many of life's unknowns, including unemployment, loss of loved ones and downward mobility; but obviously gates cannot deliver all that is promised...It creates an 'illusion' that is equally important for homeowners because it still enables them to feel better about their social status and place in the world and for those who are 'outside'... (155).

So gates are used by community residents to create the new community they are searching for. But again, the low numbers in police reports that reflect the level of crimes prove that it is much safer to live inside of Sea Gate than outside. According to police reports data, the most common crime that occurs in Sea Gate is robbery, however comparing statistics from 2000 and 1993, we see a huge decrease in number of such robberies taken place in those years – 251 and 1,074, accordingly.⁸

Today, after more than a hundred years, Sea Gate remains a “gated fort” for its residents. Despite the fact that it used to be some kinds of public transportation at the beginning of the last century, in our days all public transportation runs outside Sea Gate area. How do people get in? There are two gates to enter the community. Residents touch an electronic pad with a special key that opens the main gate. Guests are also welcomed to enter through the gate on Surf Avenue.

The Sea Gate Association is still located in its original headquarters and runs the community. It consists of officially elected board members who meet at the office to discuss different issues, ranging from beach erosion to renewing sanitation and police contracts. The office is also used by residents to drop off dues and charges, make complaints or apply for summer cabanas or parking permits, renew keys or buy beach passes. The Sea Gate Association provides sanitation and police services and maintains public works. The city, on the other hand, provides firefighting and health protection services.

R. Radomsky wrote in her article, “Because there are no public schools in the neighborhood, school age children take buses to District 21 schools in Coney Island. They attend Public Schools 188 and 329, Intermediate School 303 and Mark Twain Junior High School for the Gifted and Talented, which requires an admissions exam. John Dewey, Lafayette and Abraham Lincoln High Schools are nearby. About a quarter of the parents send their children to private schools.”⁹

Someone might get curious what to do in Sea Gate if there are no entertainment and service facilities. Well, there are some forms of recreation that are available for local residents: "Lindy Park" with its playground for young children; Nova gymnastics school with its various sports and dance classes for kids; private Sea Gate Beach Club with a pool and special accommodations; spectacular panoramic ocean and bay views that open from the beaches; and such activities as swimming, fishing, picnicking, flying kites, baseball playing, or just enjoying the ocean. If it is still not enough, just step out of the community and enjoy the amusement parks on Coney Island.

In his book about Sea Gate, which included personal memories and recollections of former residents, Arnold Rosen also mentioned about some of the notable residents, who lived in Sea Gate full and part time. Some of them were New York Governor Al Smith, opera diva Beverly Sills, actress Sarah Bernhardt, Douglas Fairbanks Sr., John Garfield, Luther and Stella Adler, Nina Foch, Paul Muni and Nobel Prize laureate Isaac Bashevis Singer. Other Sea Gate-born or based notables over the years include Dr. Martin Couney (inventor of the baby incubator) and Nobel Prize recipient Paul Berg.¹⁰

⁸ Information is adapted from

http://www.nyc.gov/html/nypd/downloads/pdf/crime_statistics/cs060pct.pdf.

⁹ From the article “If You're Thinking of Living in: Sea Gate” by R. Radomsky, published on April 17, 1988.

¹⁰ From the article “Hidden gems tucked away behind gates” by Arnold Rosen, published on February 14, 2011.

Conclusion

While doing this paper, I had a chance and pleasure to study many different sources. I luckily found old articles that were kept in archives for about a hundred years. I carefully read the pages of very rare books while studying them. I searched through collections of private and antique photographs of historical places, buildings, and people, whose names were mostly unknown today, but their faces and surroundings could tell me their stories. I listened to various interviews and opinions, met new people and had unforgettable experience. But there was one more old local “resident” who witnessed everything that has happened in Sea Gate. This is our house that was built in 1910, more than a century ago. A hundred years, is it too much or not? Well, it is almost the whole period of development of Sea Gate as a community. Everyone who comes to visit us says that it [house] has its own character, style, history and, certainly, its memories. If only it could talk.

As any project that we take seriously, this one took me a long time to work on - to find, select and combine the most interesting facts and details together into one paper. Someone might wonder why I did it. The answer is simple. For me, Sea Gate is not just a place or a neighborhood, like many others. It became a part of my life and my family. So, I wish we better know and understand the history of Sea Gate. Someone might say it is not so important to pay too much attention to a place we live in. Maybe it is true for someone, but not for me. Because every time, when the lights go down in Sea Gate and the stars brighten the sky; every time when I feel the cool breeze of the ocean blowing through my open window and hear the bell ringing somewhere in the distance, I am sure that most of the residents have the same feeling. We feel that we are at home, and we are a part of a unique seaside community.

A Quote About Sea Gate:

In his book *Sea Gate Remembered* Arnold Rosen wrote, “Of all the amenities Sea Gate had to offer, the wonderful beach was perhaps the crown jewel. In the 1900s this strand was a broad, gently sloping stretch of hard, clean, fine white sand ... It commanded the ocean view to the east, south and west.”¹¹ And I believe that the beach of Sea Gate will always remain its main crown jewel...¹¹

Some Statistics

Based on Census Tract, 0336 – Sea Gate

Census 1950

Total Population

Total Population	1,948	
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Sex

Total Population:	1,948	
Male	938	48.2%
Female	1,010	51.9%

Race

Total Population:	1,948	
White	1,933	99.2%
Black	15	0.8%

¹¹ A quote is from the article “Hidden gems tucked away behind gates” by Arnold Rosen, published on February 14, 2011.

Other	0	0%
Household Income		
Households:	690	
\$500 to \$999	30	4.4%
\$1,000 to \$1,499	30	4.4%
\$1,500 to \$1,999	20	2.9%
\$2,000 to \$2,499	55	8.0%
\$2,500 to \$2,999	40	5.8%
\$3,000 to \$3,499	60	8.7%
\$3,500 to \$3,999	55	8.0%
\$4,000 to \$4,499	75	10.9%
\$4,500 to \$4,999	30	4.4%
\$5,000 to \$5,999	55	8.0%
\$6,000 to \$6,999	20	2.9%
\$7,000 to \$9,999	75	10.9%
\$10,000 or More	40	5.8%
Employment Status		
Population Age 14 and Over:	1,461	
In Labor Force:	731	50.0%
In Civilian Labor Force:	723	49.5%
Employed	683	46.8%
Unemployed	40	2.7%
In Armed Forces	8	0.6%
Not in Labor Force	730	50.0%
Housing Units		
Housing Units	665	

Census 1980

Total Population		
Total Population	3,999	
Sex		
Total Population:	3,999	
Male	1,989	49.7%
Female	2,010	50.3%
Race		
Total Population:	3,999	
White	3,772	94.3%
Black	90	2.3%

Asian and Pacific Islander	21	0.5%
Other	113	2.8%
Family Structure		
Households:	1,705	
Married-couple family:	942	55.3%
With own children	400	23.5%
Without own children	542	31.8%
Other Family Households:	154	9.0%
Male head, no wife present:	11	0.7%
Without own children	11	0.7%
Female head, no husband present:	143	8.4%
Non-Family Households	609	35.7%

Employment Status For Total Population

Persons 16 Years And Over:	3,193	
Armed Forces	0	0%
Civilian labor force:	1,561	48.9%
Employed	1,386	43.4%
Unemployed	175	5.5%
Not in labor force	1,632	51.1%

Average Family Income (In 1979 Dollars)

Average family income	\$21,243
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Year Structure Built

Year-Round Housing Units:	2,054	
Built 1979 to March 1980	24	1.2%
Built 1975 to 1978	31	1.5%
Built 1970 to 1974	53	2.6%
Built 1960 to 1969	284	13.8%
Built 1950 to 1959	178	8.7%
Built 1940 to 1949	268	13.1%
Built 1939 or earlier	1,216	59.2%

Source: U.S. Census Bureau, PL File New York City Department of City Planning

Census 2000

Based on Census Tract, 0336 – Sea Gate.

CHANGE in TOTAL POPULATION, 1990 to 2000

Census Tract	Total Population		Population Change, 1990-2000	
	1990	2000	Number	Percent
0336	4,360	5,159	799	18.3

TOTAL POPULATION by MUTUALLY EXCLUSIVE RACE and HISPANIC ORIGIN

Census Tract	Total Population	Non-Hispanic by Race				Two or More	Hispanic Origin (of any
		Single Race					
		White	Black/	Asian	Other		

			African American			Races	race)
0336	5,159	3,901	383	100	44	246	485

TOTAL HOUSEHOLDS by HOUSEHOLD FAMILY TYPE

Census Tract	Total Households	Total Family Households	Total Non-Family Households	Average Household Size	Average Family Size
0336	1,902	1,169	733	2.65	3.53

INCOME and EDUCATION

Census Tract	Median Household Income	% Persons below Poverty	% Families below Poverty	Population 25 +	% High School Graduates or Higher	% College Graduates or Higher
0336	\$33,359	24.1	18.9	3,314	78.9	28.3

SELECTED HOUSING CHARACTERISTICS

Census Tract	Total Housing Units	Occupancy Status			
		Total Occupied Housing Units	% Owner Occupied	% Renter Occupied	% Overcrowded
0336	2,116	1,920	39.6	60.4	11.6

Number of Units & Age of Structure

Census Tract	Total Housing Units	Units in Structure			Age of Structure		
		% 1 & 2 Units	% 3-9 Units	% 10 units or more	% Built 1990 to 2000	% Built 1950 to 1989	% Built before 1950
0336	2,116	53.5	30.2	16.2	2.0	38.7	59.3

Source: U.S. Census Bureau, 2000 Census PL File New York City Department of City Planning

Acknowledgements:

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STEVEN SHIREFF & STAN SAVIN

Tesla¹

Abstract

The main focus of this project is to take an in-depth look at the marketing plan of Tesla and how they execute it. This HCP also expresses how Tesla plans to bring a new EV into the consumer market and explain the steps, conditions and threats that they are most likely to face. This project allows the reader to obtain a complete understanding of Tesla, the company itself and the steps on how they have to analyze their target market and potential customers.

EXECUTIVE SUMMARY

Tesla Motors is an electric car manufacturer that produces 100% electric cars with no petrol based engine. Tesla's goal is to sell its own vehicles in a growing number of company-owned showrooms and online; it sells patented electric powertrain components to other automakers so that they may get their own electric vehicle to customers sooner and it serves as a catalyst and positive example to other automakers, demonstrating that there is pent-up consumer demand for vehicles that are both high-performance and efficient.

Tesla vehicles offer performance, handling, and comfort with no tailpipe emissions. Tesla vehicles cut in half the CO2 emissions of its petroleum-burning rivals by using a battery to completely power the car and move it. Through their excellent design and luxurious features, Tesla can help start the change in how we all drive cars, luxurious and fuel efficiently with miniscule harm to our environment.

COMPANY DESCRIPTION

Tesla Motors was founded in 2003 by a group of Silicon Valley engineers who set out to prove that electric vehicles can be awesome. Tesla is based in Palo Alto, California. Currently with 21 stores worldwide with more than 1400 employees, Tesla is also looking to increase their total amount of employees further introducing new people to the future of developing electric vehicles. Tesla, which was named in tribute to Nikola Tesla who was an inventor, mechanical and electrical engineer and he also developed the modern alternating current electrical supply system. The Tesla Roadster uses an AC motor descended directly from Tesla's original 1882 design and proves to be an excellent technological advance in the way we drive cars.

Tesla vehicles offer control and superior handling with comfort which is meant for the driver and passengers to feel comfortable at all times during their period of driving. They use energy efficiently, don't pollute, and will help eliminate dependence on oil. Tesla vehicles liberate their owners from the

¹ Completed under the mentorship of Prof. Maxine McGarvey for BA 14: Principles of Marketing.

petroleum-burning groups and associated inconveniences which are harmful towards different aspects of our environment. The idea of time-consuming and costly detours to the gas station, routine oil changes, and frequent maintenance quickly becomes rather "last century". Tesla also hopes to drive down the cost of their electric vehicles by cooperating with other car manufacturers and sharing their technology to aid and help them in producing these electric vehicles.

STRATEGIC FOCUS AND PLAN

Mission

Tesla's goals are to provide energy efficient, environmental benefits and also make it easier for the consumer to charge their Tesla car at different charging stations. Tesla provides an energy efficient vehicle that relies only on electrical power which is an obstacle that many car manufacturers are facing today. Depending on the battery of the Tesla, it can travel anywhere from 160~300 miles on a single battery charge. Their next goal is environmental benefits. By reducing our reliance of petroleum, we can prevent future problems such as price spikes in oil, environmental disasters and arguments amongst different nations. Petroleum currently fuels 95% of the United States transportation sector, a sector that demands nearly 28% of total energy usage. Not only is petroleum a diminishing resource, but it is also a significant source of greenhouse gas emissions. By reducing dependence on petroleum means increasing dependence on electricity. Tesla's next goal is to provide a simple and easy way for the consumer to charge their Tesla car. By doing this, people are able to charge their Tesla when it is not in use and by the time they are ready to use it again, it will be charged and ready to go. Tesla also provides different power connectors that produce different charge rates, which means people who drive much more often can use the high powered charger which can completely charge the vehicle in 4 hours or less. There is also a mid-ranged power connector which allows a full charge in about 6 hours.

Nonfinancial/Financial Goals

Tesla's nonfinancial and financial goals are to provide the consumer with a car that is not only environmentally friendly but has no dependence on petroleum or emits any greenhouse gasses. Tesla believes in the future they will start to sell their cars at a lower price than what it currently is. By reducing the price, more people who are fascinated and interested by Tesla's ingenuity and design will be able to own one themselves.

Core competency and sustainable Competitive Advantage

Tesla's advantage amongst other car manufacturers is that, Tesla produces electric vehicles that has no reliance on petroleum or uses a combustion engine to run. Because of this other car manufacturers are trying to follow Tesla such as the Toyota RAV4 EV or the Toyota Prius. Tesla not only focuses on its energy efficient ways, it gives great attention to detail on the overall look and feel of the car, giving it a luxurious look and feel.

SITUATIONAL ANALYSIS

Strengths

First-to-market: Tesla's Roadster was the first federally-compliant highway-capable electric vehicle launched in both the U.S. and Europe, setting Tesla up to be known as the electric vehicle company.

Partnerships: Tesla's partnerships with Toyota, Daimler AG, and Panasonic have allowed the company the opportunity to support their battery technology research and development.

Focus on design, performance, and efficiency: Tesla is the only automaker that places equal emphasis on zero emissions and the performance of the car.

Battery Technology: Tesla has superior battery technology to other manufacturers in the industry. This allows them to produce efficient vehicles that have little impact against the environment.

Weaknesses

Tesla's Model S will not launch until 2012: There is currently a lot of hype surrounding EVs (Electric Vehicles), other than their Roadster sales and the Model S waiting list, Tesla is unable to turn this hype into sales. Additionally, the delay of the Model S allows competitors to launch more affordable EVs before Tesla.

Lack of Brand Name Recognition: Compared to most of its competitors, Tesla is not a well-known brand in the auto industry. As Tesla attempts to sell EVs to a more mainstream target market, name recognition will become more important. They hope to correct this situation by promoting their stores and cars all over the world.

Consumer behavior changes required for EV purchase: EVs require greater consumer behavior changes than hybrid or plug-in hybrid vehicles. For instance, it can take several hours to recharge an EV battery, whereas it only takes a few minutes to fill a car with gas.

Opportunities

Sales outside of the U.S., particularly Europe, Asia, and Canada: Tesla has been very successful in European markets, particularly Germany, and the company sees great potential in Asian and Canadian markets.

Government regulations and economic incentives: Since 2008, the DOE (Department of Energy) has invested \$5B in EV technologies. The DOE objectives include reducing battery pack costs 70% by 2015 by improving the public charging infrastructure.

The Tesla Brand Community: Tesla has a strong and established brand community of owners and hopeful owners who are very enthusiastic about the brand. Tesla should manage and leverage this community to drive sales of the Model S. This also shows, if Tesla can successfully promote the Model S it can potentially lead to a huge success.

Innovative Sales Channel Model: If implemented properly Tesla's "Apple store model" will provide a unique and differentiating customer experience. Tesla has the opportunity to reframe the car buying experience.

Threats

Continued economic downturn: If the economy does not improve, Tesla will have difficulty selling the Model S which could severely impact the success of the entire company. Any further delay of the Model S could erode consumer confidence and allow more competitors to enter the market before Tesla.

Consumer preference for hybrids and plug-in hybrids: Tesla only sells electric vehicles. If consumers prefer hybrid technology rather than EV technology, Tesla is likely to fail. Tesla's R&D has depended on revenue provided by strategic partnerships. Without this revenue, Tesla may not be able to fund future R&D.

Competitors Analysis

The Model S will face competition from existing and future automobile manufacturers in the luxury category, including Audi, BMW, Lexus, and Mercedes. While most automakers (Nissan, General Motors, Ford, Honda, and Volkswagen and many others) are planning to enter the EV market in the next few years, we believe that the most significant competition for the Model S will be from the luxury category.

- **BMW**

BMW has recently been ramping up its EV capabilities and announced that it will hire 2,600 new employees by the end of 2011 to focus on electric and hybrid technology.

- **Audi**

Franciscus van Meel, Audi's manager for electric mobility strategy recently stated, "By 2020, we want to be the leading premium seller of electric vehicles." Audi plans to launch their first e-tron EV by 2012. Audi recently opened a \$90M, 14,000-square-meter electric-drive development and test center at its headquarters and plans to hire 840 people to help develop electric powertrains and batteries.

- **Toyota**

The Toyota Prius is "the unofficial green mobile for Toyota and the world." Toyota is expected to launch its first plug-in hybrid Prius – the Prius PHV – in 2012. The car is essentially identical to the Prius, except for the plug-in technology.

Company Analysis

Step 1: Promotional Campaign.

The objective of the promotional campaign is to generate brand name recognition and spark consumers' interest, motivating them to research Tesla online or to visit a Tesla store. The promotional message should have both an emotional (cool, hip, status symbol) and rational (technically superior, zero emissions) appeal, but the unifying theme (fun to drive) should remain constant.

- **Step 2: Utilize the Tesla Brand Community to Engage New Consumers:**

Current Tesla owners will make great salespeople. Engage the Tesla Brand Community members with the potential members through forums, Facebook and other internet media.

- **Step 3: The In-Store Experience.**

Store salespeople should be able to educate consumers on all technical aspects of the Model S, And they should be passionate about the brand. They can also offer test drives of the Model S which can entice the consumer purchase a Tesla and confirm the "fun to drive" message.

- **Step 4: Welcome New Owners to the Tesla Community:**

New owners will become Tesla's brand champions and it will be important to involve them in Step 3 of this marketing process in the future.

Customer Analysis

The EV market can be divided into three segments:

- 1) Drivers who see EVs as symbolizing their commitment to the environment.
- 2) Drivers who see the technology as simply cool representing cutting edge innovation that puts them ahead of the pack.
- 3) Drivers who see EVs as a way to reduce travel costs.

MARKET-PRODUCT FOCUS

Target market

According to a GE consumer survey, the EV market can be divided into three segments: 1) drivers who see EVs as symbolizing their commitment to the environment, 2) drivers who —see the technology as simply cool, representing cutting edge innovation that puts them ahead of the pack, and 3) frugal drivers who see EVs as a way to reduce travel costs. The ideal target market for the Model S will include

consumers from segment one and/or two who can afford luxury vehicles. Furthermore, the Model S will also appeal to consumers who use brands for self-enhancement, self-verification, and/or self-construal purposes, presenting an environmental but also hip, trendy, and independent image to themselves and others. Finally, the ideal Model S consumer is someone who will embrace the role as a member of a brand community⁴¹ and will become a Tesla Enthusiast.

Points of difference

If you want to have a unique car, then the Tesla might work for you. The roadster is a high end sports car that will compete with any other kind in its particular class. The Tesla roadster could be a great alternative to people who like to have a different car to show off with. 1. It offers near zero emissions and a gas saving way to get around the town.

2. It charges itself as it drives when you take your foot off the accelerator. And you don't have the problem with a conventional sports car of having to change gears to find the power torque – it's a smooth flow of power to the driver and there is no exhaust pipe to catch on speed bumps.

3. it's made of highly resilient carbon fiber so it doesn't dent or rust in the way a conventional car shell does. 4. It is expected that as the Tesla battery design is further improved, you will have the choice of 40% more power, or more boot space.

Marketing Program

Project Strategy

The Tesla brand has been relatively quiet for the past few years releasing only one car since its opening. In the following years it intends to become much more aggressive with the planned release of four cars. It has the model S and the Toyota REV4 announced for 2012. Then there is Mercedes-Benz EV, which will be released in 2013.

The next design Tesla announced is the model X which is estimated to be released in 2014. The unique thing about Tesla brand is that it is currently the only pure electric sports car released. They have also developed superior technology that other companies order from them. Their parts are not only more efficient but also cheaper to make. Tesla's superior parts are sold to other companies which is a reason why Toyota and Mercedes choose to do collaborate with them.

Promotion Strategy

Tesla plans on IMC (Integrated marketing communications) through various marketing strategies. Tesla uses the internet to inform consumers of the product they have available and show every aspect of how the product functions and performs. Tesla also allows their customers to sit in the car at their store, encourages people to ask questions and decide if they should get it. The US government is also helping Tesla promote their cars by offering potential buyers a \$7,500.00 federal tax credit which the purchase of a Tesla. Tesla also entices consumers to increase their likelihood in buying a Tesla because of its luxurious design and look.

Place (Distribution) Strategy

Tesla allows various ways for their products to be where the customers want them by establishing various showrooms, events, and test drives enabling the consumer to become fully aware of the car they will possibly purchase. By doing this they can also determine how much consumers demand the product and have it readily available for purchase.

Tesla's logistics management consists of using parts from around the world to build their cars. Tesla's powertrain, which is proprietary, is designed and built in California. Tesla Motors maintains relationships

with many suppliers for other parts of the car, including Tesla's carbon fiber body panels which are made in France by Sotira. The panels are sent to England, where Tesla contracts with Lotus to build a unique chassis in Hethel, U.K. The cars are then sent to Menlo Park, California, where workers install all of Tesla's proprietary components. The battery pack is assembled in Palo Alto, California, using battery cells from Japan. The single-speed gearbox is built in Michigan by USA-based supplier BorgWarner. Tesla also prepares for distribution by accepting a limited amount of pre-orders for the next 4 models they will be releasing in the near future. By doing this they can have the cars ready and distributed to the consumer in a timely manner without any problems.

Financial Data and Projections

Past Sales

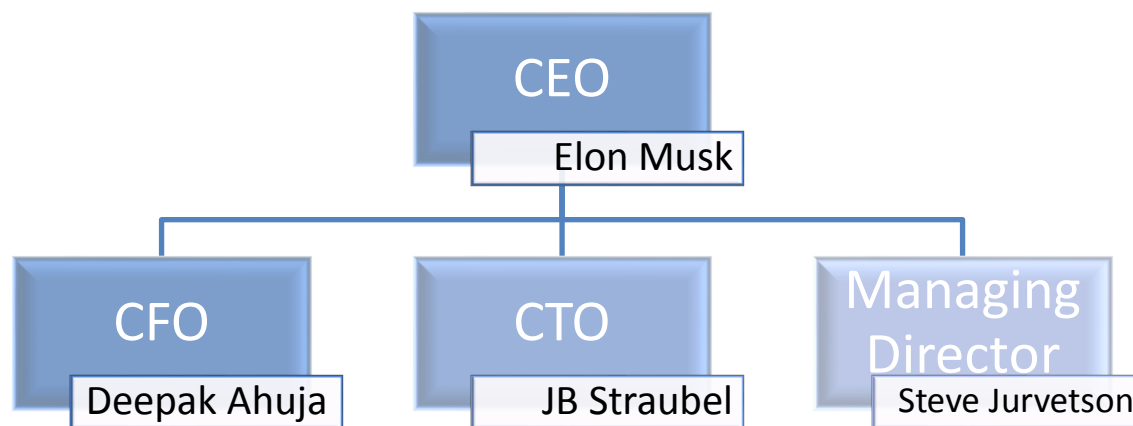
Tesla has only released one EV since opening. That car was the Roadster. It debuted in 2008 and needed to sell around 2500 to be considered success. While it ultimately did meet those standards, it met them far too slowly to be considered a success. Tesla announced 2250 sales of Tesla Roadster by December 2011 before discontinuing production. Tesla has only managed one profitable quarter. During the third quarter in 2009 during which the Roadster had its strongest sale pushing 500 cars in 3 months. However, over the past four years it has only averaged 10 sales a week.

Projections

Tesla is predicting to make more than 500 million in 2012. This can mainly be attributed to the strong anticipated sales of Model S and Toyota REV4. Model S has received 6000 reservations and if all customers commit they are estimating \$600 million in profits alone. Combining that with the sales of REV4 and separate parts to other customers they are expecting more than \$500 million in profit. Tesla aims to become profitable by 2013. Their current debt lies at \$505 million and if their predictions are correct then they are expecting to pay the debt and could get into financial security by 2013.

They are also predicting a strong 2014 financial year. The model X that is intended for 2014 release has over 20,000 reservations. That is more than triple that of Model S. Model X will be more of a consumer car and Tesla is realistically aiming to make the price of it \$30,000. Tesla also intends to build charging stations on major highways between California and San Francisco to make it easier for the consumer to charge their Tesla while they are traveling long distances or just decide to charge the battery to maintain a maximum travel range.

ORGANIZATION



Implementation Plan

2012 Quarter 1. Tesla announces that it intends to fund future cars without raising capital. In the past it has used the money generated from reservations and loans to design cars. After the model S they believe that they will be able to fund cars by themselves. Tesla also posted a loss of \$254 million in 2011. That is due to increased development and decreased sales

2012 Quarter 2. The highly anticipated Model S will be released in June.

2012 Quarter 3. Toyota REV4 is released

2012 Quarter 4. Predicting more than 500 million in revenue for 2012

2013 TBD. Tesla/Mercedes Collaboration EV will be released sometime in 2013. Also the recharging station will be operational in 2013. By then there will be sufficient Tesla driver to see its usefulness.

2014 TBD. Release of Model X

EVALUATION AND CONTROL

Tesla must implement a marketing campaign around the Model S launch.

If battery pack prices fall, Tesla will eliminate the Model S 160-mile option EV and reduce the prices of the 230 and 300 mile EV options to increase Tesla's competitive advantage.

They also plan to expand services and repair infrastructure by negotiating a service agreement with Toyota.

Distinctions, the journal of the Honors Program of Kingsborough Community College of the City University of New York, welcomes scholarly articles and creative works that explore important issues in all aspects of humanistic endeavor, not confined to a specific academic discipline. Our editorial staff is sympathetic to a broad range of theoretical and critical approaches; however, the views expressed in articles are solely those of the authors.

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SUBMISSION GUIDELINES

General Guidelines

All manuscripts should be submitted electronically as Microsoft Word 2007 (or later) attachments to Professor Robert Cowan (robert.cowan@kbcc.cuny.edu) and include a working e-mail address and telephone number for both the student and mentor. Submissions should be in 12-point font and double-spaced throughout in a legible typeface like Times New Roman or Cambria.

Lists of Works Cited

The biggest problem with our submissions is that the citations are woefully insufficient. Articles should include a list of Works Cited and be properly referenced according to the guidelines of the Modern Language Association, American Psychological Association, or other citation system appropriate to the discipline for which they were written. Please do not give incomplete bibliographic references.

We do not publish:

- Computer science papers that consist mostly of many pages of code
- Art reviews of exhibits that are no longer running
- Class assignments that are letters to officials
- Papers that are basically biographies of famous persons
- Class journals

We are unlikely to publish:

- Papers that are hand-written, unless they include exceptionally beautifully drawn diagrams
- Overviews of topics, unless they include a summary of recent developments in the field
- Art history papers that have no illustrations of the work being discussed
- Papers by students we have already published, unless they are really much better than other related submissions for that issue
- Personal essays, unless they also make an argument about a topic

What we are looking for:

- Articles approximately 3,000-5,000 words, which may include notes, diagrams, and/or illustrations
- An argument, not just a summary of other's arguments
- In-paragraph citations that are clearly connected to the Works Cited list
- As few reference sources as possible

Deadlines

August 1 for the Fall issue and February 1 for the Spring issue.

DISTINCTIONS

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