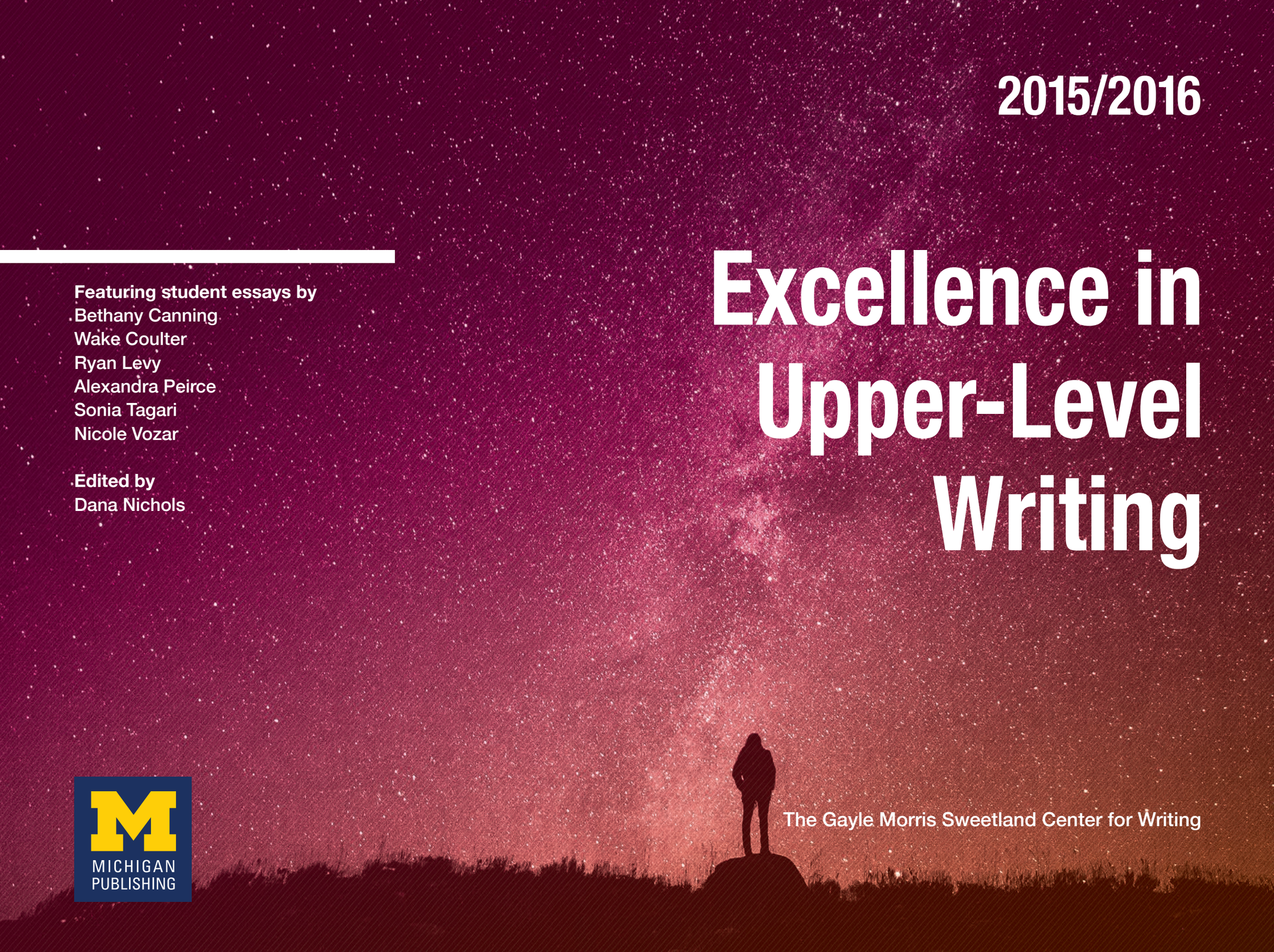
2015/2016

Excellence in Upper-Level Writing

Featuring student essays by
Bethany Canning
Wake Coulter
Ryan Levy
Alexandra Peirce
Sonia Tagari
Nicole Vozar

Edited by
Dana Nichols



MICHIGAN PUBLISHING

The Gayle Morris Sweetland Center for Writing

Excellence in Upper-Level Writing

2015/2016

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Edited by
Dana Nichols

Published in 2016 by Michigan Publishing
University of Michigan Library

Michigan Publishing
1210 Buhr Building
839 Greene Street
Ann Arbor, MI 48104
lib.pod@umich.edu

ISBN 978-1-60785-378-7

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Molly Moroz	Selena Smith
Julia Paige	Julie Halpert
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Tanner Petch	Josh Morrison
Helena Ratte	Vlad Beronja
T.J. Sell	Christine Modey
Georgina Sorrentino	Robin Beck; Travis Williams
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Nicole Vozar	Robin Beck
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Cole Zingas	Emilia Askari

Introduction

The Upper Level Writing Requirement was established in 1978 to help student writers "understand and communicate effectively the central concepts, approaches, and materials of their discipline." Over the years the ULWR has shifted to a more interdisciplinary model, as the University has, so that a significant percentage of student have more than one major or fulfill the ULWR outside their major. Faculty have likewise become increasingly concerned with preparing students to write for multiple audiences, including both public and professional groups. But the focus remains on helping students become effective writers who can take their places in a society that values the ability to write well.

The faculty who offer ULWR courses create contexts where students write regularly, revise and polish their prose, and deepen their understanding of ways to make a convincing argument. While the specifics of what counts as evidence, the terms of arguments, and ways of addressing audiences vary from one course to another, all focus on producing effective writing. Faculty support students' growth as writers by designing challenging assignments, reading students' prose carefully, and providing detailed feedback. The faculty introductions to each selection included in this collection offer a window into the learning that occurs in ULWR classrooms.

The writing collected here demonstrates the continuing value of the ULWR. The student authors represented deal with a wide variety of topics, but they all combine deep understanding of a specific area with excellent prose. They take risks and adhere to conventions; they synthesize complex ideas and provide rich detail; they exert intellectual independence and respect disciplinary conventions. As a group they demonstrate the capacity to meet the expectations of the ULWR and push beyond to impressive levels of accomplishment.

Thanks to a generous gift from the Granader family, students receive a cash prize along with a certificate recognizing their excellence in writing. I am grateful to the Granaders for choosing to recognize writing in this way because

it gives material heft to some of the most important work carried out by faculty and students within the College of Literature, Science, and the Arts. Likewise, the publication of this collection makes excellent student writing available as a model and inspiration for others. The careful editing of Dana Nichols and the design created by Aaron Valdez make this book a pleasure to read.

Participants in the Sweetland Seminar—faculty and advanced graduate students committed to integrating writing into their courses and helping students become better writers—serve as judges for the Granader Family Prize for Excellence in Upper-Level Writing. This year's readers were: Lindsay Champion Ahalt, Sheila Coursey, Anne Gere, Mika Kennedy, Sarah Mass, Fabian Neuner, Lori Randall, Christina Perry Sampson, Ginger Shultz, and Valerie Traub. Thanks to all for putting their own writing aside to select the winners of this year's prizes for excellence in upper-level writing.

Anne Ruggles Gere, Director
Sweetland Center for Writing

Winning Essays
Granader Prize for Excellence in Upper-Level Writing (sciences)

A Survey of Radioactivity Experiments

Ryan Levy

From Physics 441, Advanced Physics Lab

nominated Hui Deng

Mr. Levy's lab report summarizes a set of experiments done in the radioactivity lab. The lab consisted of about ten different measurements with a dozen different materials. Impressively, Ryan thoughtfully organized all the measurements and results into a coherent report with a strong central theme and clear logical flow. Not only the overall lab, but every measurement, is well motivated and well connected to the central theme. The data and figures are extremely well presented, too. It is by far the best report I have seen on the radioactivity lab.

Hui Deng

A Survey of Radioactivity Experiments

1 Introduction

Radioactivity is a common phenomenon in nature, due to the abundance of unstable elements. Atomic instability causes the atom to emit energy, in the form of a photon, a particle, or sometimes both, in order to transition to a more stable state. The emission is characterized into three types, known as alpha, beta, or gamma decay. Alpha particles have low kinetic energy but are very massive, consisting of two protons and two neutrons. Beta particles have more kinetic energy than alpha particles do, and consist of electrons (β^- decay) or their anti-matter counterpart, positrons (β^+ decay). Gamma decay consists of a highly energetic photon that generally accompanies an electron (beta decay).

One well-known radioactive element is Carbon-14 (^{14}C); most substances have some amount of ^{14}C and in fact humans contain not only this element but also other radioactive isotopes like Potassium-40. Knowing how fast an element decays (the half-life) and measuring the rate at which radioactive emissions are occurring, one can date an object.

Capturing these decays are relatively easy, thanks to an invention by Geiger in 1908 and improved by Müller in 1928. They made a tube containing an inert gas, which would be ionized by incoming radiation when placed in a high electric field. The electric field then gives further energy to the now free electrons to produce a cascading effect of exciting more electrons; this cascade results in a large enough current for the tube to record. Using this 87-year-old technology, we can easily study radioactive materials.

2 Equipment Calibration

The equipment used in this lab is a Canberra P2131 detector with a Spectrum Techniques ST260 radiation counter with support assembly. Sources were contained within plastic discs with radiation labels facing opposite the detector.

When initially setting up a detector to study radioactivity, it is important

to determine several features of the detector and the surroundings, including the operating voltage, background count rate, and deadtime of the detector.

2.1 Operating Voltage

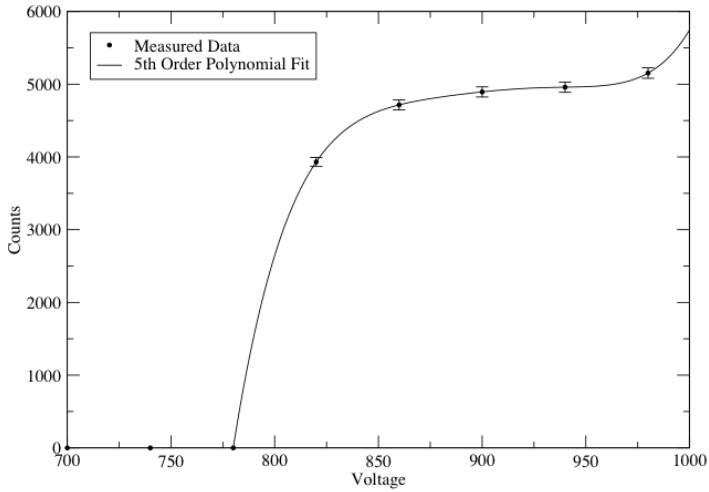

Figure 1: Operating Voltage using ^{90}Sr

Due to the nature of the detector, the operating voltage significantly affects counts. As such, when using the equipment, the proper voltage must be determined for running experiments. Using the 90Sr source, as it has an easily measurable flux of emissions, we measured the counts at various voltages in Figure 1. The two zero-count measurements indicate the voltage was too low to cause the cascade effect for the Geiger counter to make a measurement.

From this plot we decided to use an 860 V operating voltage for all of our measurements, as the counts measured did not change much for small changes in the voltage around 860 V.

2.2 Background Noise

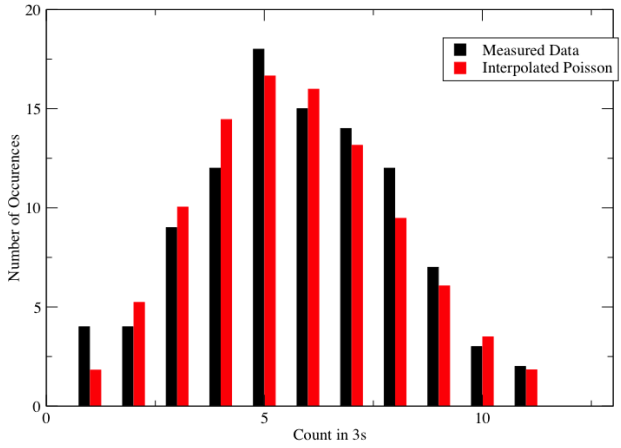

Figure 2: Histogram of Background Counts

Our lab environment was filled with other students performing measurements on their own samples, greatly increasing the background radiation. This background is studied and is expected to take the form of a Poisson distribution. For 100 3s-measurements, we found a mean count rate of 1.9±0.1 Hz and variance of 1.78 Hz. Because a Poisson distribution has the same mean and variance, we compared the measurements with a Poisson distribution of rate parameter (mean) 1.85 Hz in Figure 2.2. This produces a $\chi 2$ of 1.86 corresponding to a right-tail probability of 0.997. Both the $\chi 2$ and right-tail probability value confirm that our data matches a Poisson distribution. This background rate was subtracted from all subsequent measurements.

2.3 Deadtime

Another intrinsic property of the detector is the deadtime τ, the time the detector takes to recover before it can catch the second count after a first one. The deadtime is defined as

$$N = \frac{N'}{1 + N'\tau}$$

where N is the true count rate and N' is the measured rate. To properly measure the deadtime, we employed two half circles of ^{204}Tl. These are measured individually (N_1,N_2) or together (N_{12}) and allow for us to solve for deadtime τ

$$\tau = \frac{N_1' + N_2' - N_{12}'}{N_1' N_2' + \sqrt{N_1' N_2' (N_{12}' - N_1')(N_{12}' - N_2')}}$$

This equation shows that the measurement of τ depends on the count rate, while τ itself is an intrinsic property of the detector independent of the measurement method. Therefore to properly test the validity of the formula, measurements were repeated using the same source but at three different source-detector distances to produce different count rates. Each distance corresponds to a different height-level on the source holder. For levels 1,2,3 (in order of increasing distance to the detector) we measured a deadtime of 3.66±0.01 ms, 2.222±0.006 ms, 2.08±0.007 ms respectively. The variation is within the expected range for this particular apparatus. A deadtime of around 2 ms would result in an error of 10% or less for a count rate below 50 Hz. We chose not to correct for deadtime in the remainder of this report when the count rate is below 50 Hz.

3 Absorption in Media

By the nature of radioactivity, after particles are released from the nucleus, they will immediately begin to interact with whatever media they are released into. Thus it is interesting to study how different particles interact with media as a way to observe differences in radiation type.

3.1 Alpha Particles in Air - ^{210}Po

Alpha particles are the weakest type of radiation, consisting of two protons and neutrons. Because the particle is not very energetic, they can be stopped by paper!

As such, these particles can be dissipated in air alone, which means we can measure count rate as a function of the free-space distance from the detector. By mounting a ^{210}Po source and varying its distance from the detector, we can determine the dissipation of alpha particles in the air. In addition we also corrected for solid angle as a compensation for scattering at a distance.

From Figure 3, there is a stable plateau where all of the alpha particles are properly counted, where distances too close will overload the detector and moving too far away will result in the particles dissipated in air.

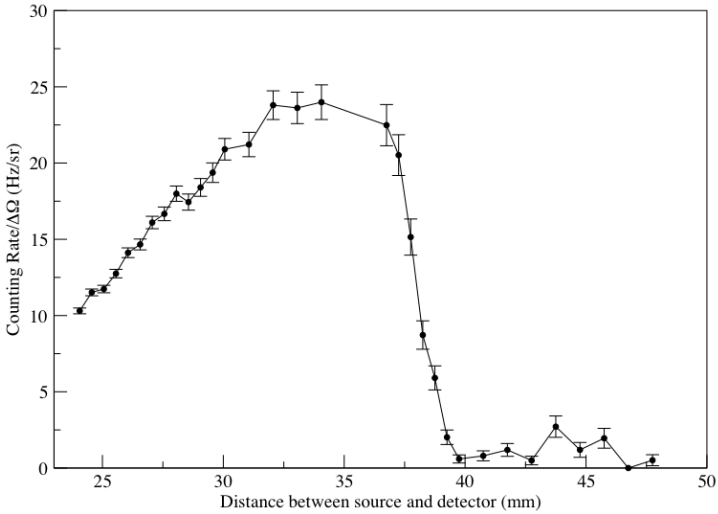

Figure 3: Range Test of ^{210}Po in air

Our measurements give an alpha particle range of 3.975±0.0267 cm. Using a density of air at room temperature of 0.0012 g/cm^3[1], we find our range is 0.00477±3×10^{-5} g/cm^2. NIST measurements for an alpha energy of 5.304 MeV is about 0.00437 g/cm^2[2], or about 9% error of our data. Our measurements correspond to an energy of 5.3 MeV with an energy loss rate of 1088.30 MeV/(g/cm^2). Energy loss rate is a convenient parameter to compare the different forms of radioactive emission.

3.2 Beta Particle Absorption

While alpha particles can be stopped in air alone, beta particles are attenuated noticeably only in denser materials. In particular, we study the absorption effects of beta decay with Aluminum (Al) and polyethylene absorbers using both ^{90}Sr and ^{204}Tl sources. It is important to note that ^{90}Sr decays first to ^{90}Y via a 546 keV β^- decay, then to ^{90}Zr via a 2280.1 keV β^- decay. Thus we are actually studying the ^{90}Y with the more energetic beta particles. Using a variety of absorber thicknesses, we plotted count rate vs. absorber thickness in Figure 3.1. The erratic tail behavior in the plot is attributed to counting what is little more than noise.

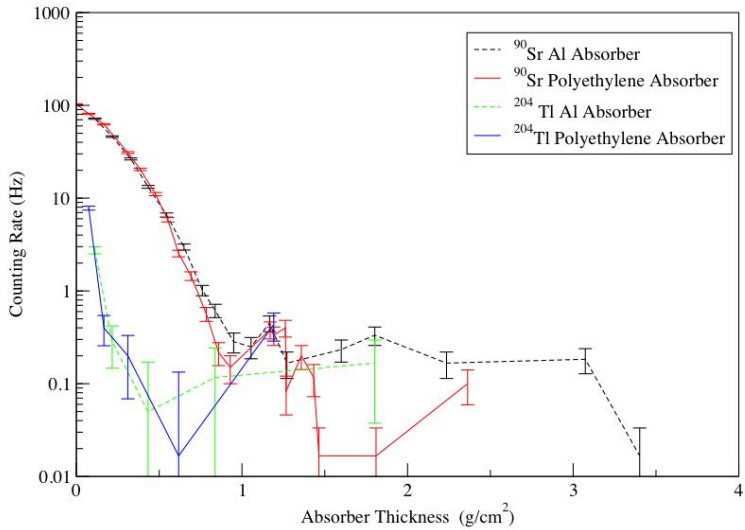

Figure 4: Beta Absorption for ^{90}Sr and ^{204}Tl

Taking the endpoint of this curve as where the curve becomes measurement of noise, we can determine the energy loss rate. The endpoints of ^{90}Sr (which can be thought of as ^{90}Y) and ^{204}Tl correspond to a projected range of 1.75 and 0.8 MeV respectively. For ^{90}Y, this is an energy loss rate of 2.037 MeV/(g/cm^2); this is approximately 534 times the energy loss of the polonium alpha decay.

3.3 Gamma Ray Absorption

For ^{137}Cs and ^{60}Co, their decay paths dictate gamma-ray release, while ^{137}Cs also emits a β^- particle. Measuring the attenuation of the gamma rays with respect to areal density of the attenuation medium, this can reveal the attenuation coefficient μ of the medium. This coefficient characterizes the exponential attenuation of monoenergetic photons within matter.

Capturing the decay and fitting the data, we can estimate the coefficient μ. We completed this by taking one of the source samples and placing it into a support, adding various polyethylene and tungsten absorbers and measuring counts. In Figure 5, we show the attenuation fitting for these two sources using polyethylene (first data point) and tungsten disk absorbers (all subsequent points) of various weights.

Through NIST's database[3] we can compare fitted data with the accepted value. Note that in order to properly fit the ^{137}Cs data, the first data point (no absorber) had to be dropped; this is due to the beta decay that is also occurring which the detector picks up. There is also a background noise correction to the data. Had there not been a constant background correction the counts would all have been shifted slightly, which in turn would change the fit.

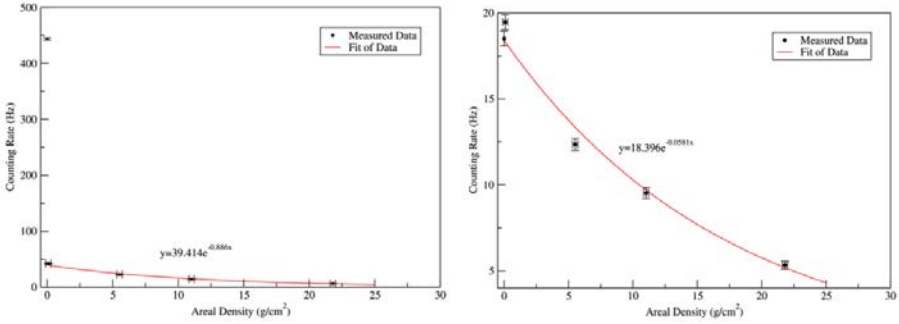

Figure 5: Attenuation of γ-rays

	^{137}Cs	^{60}Co
Fitted μ	0.0886	0.058
NIST μ	0.0747	0.0521
χ^2 of fit	0.379	0.151
Right-Tailed Probability	0.997	0.945

Table 1: Attenuation Coefficient μ Comparison

4 Half-Life

Half-life is a measurement of how long it takes for 50% of a radioactive sample to decay. The exponential decay of a substance is parameterized by the mean lifetime τ of a substance such that

$$\frac{N}{N_0} = \exp^{-t/\tau}$$

where N/N_0 is the ratio of the current quantity to initial quantity and t is time. By measuring the change in counts for two times, τ can be determine and is related to the half-life $t_{1/2}$ by

$$t_{1/2} = \tau \ln(2)$$

4.1 ^{210}Po Half-Life

Polonium has a half-life of 138.376 days, which makes it (theoretically) an easy element to measure half-life. However, our experimental setup allowed the ^{210}Po sample to slide around too much from measurement to measurement, severely changing the count rate each trial. The measurements were taken for 400s at 860 volts, with background noise corrections to our data. We were able to make three measurements, two at a week apart and another 2 days later. The first two measurements result in a half-life of 269±156 days, and 6.86±0.47 days, a large deviation from the accepted value. The average of these two, however, is 138.1±78.0 days, well within accepted half-life range.

If we were to take new measurements of the half-life, we would use a more secure sample housing. Configuration of the equipment is important for multiple, consistent measurements.

4.2 Radioactivity of KCl

The human body is slightly radioactive, containing ^{14}C and ^{40}K. Because ^{14}C is too hard to detect, we will study the radioactivity of ^{40}K with KCl. Using two samples of KCl, one a 13x2 mm thick disk and another a set of 4 6x1 mm thick disks, we can use a Delrin support to measure the radioactivity. Because the beta decay of KCl can only traverse about 1.5 mm, we treat the larger disk a disk of 1mm thickness as an attenuation correction. After applying an 89.28% branching correction, we measured a count rate of 5.33±0.30 and 5.30±0.33 Hz/g for the 1- and 4-disk setup respectively. Potassium should have a half-life of 1.277×10^{9} years; our measurements of 5.33 Hz/g correspond to a half-life of $3.91\pm1.27\times10^{9}$ years, which is within 3σ of the accepted value. Although our count measurements have a relative error of 6%, the propagation of error produces a relative error of 33% when converting to half-life. Therefore if we were to measure the count rate again, the count rate relative error would need to be 2% for a 10% relative error in half-life.

Using this data we can now see how radioactive the human body is. Assuming the average human is 70 kg, there would be 140g of ^{40}K, or about 2.01×10^{-8} Ci. A banana, which is very potassium rich, would have about 7.16×10^{-11} Ci, 3 orders of magnitude less than the human body!

5 Summary

In this lab, all three forms of radioactive decay were measured: alpha decay, helium nuclei that are very massive but lose energy quickly; β^- decay, less massive electrons who lose energy less rapidly; and gamma decay, whose energy is attenuated the least but can be coupled with beta decay. Each form is a product of radioactive decay and can be studied using a Geiger counter. Through absorption techniques,

we were able to determine the energy loss of each form of radioactive decay and confirm the relative strength of each. Alpha particles lose two orders of magnitude more energy in air than beta does, and beta decay in turn loses more than gamma radiation does. Using our knowledge of exponential decay, the half-life of Polonium was also measured albeit with large error. Extrapolation from KCl measurements gave us an estimate of radioactivity of the body and a banana.

While the lab equipment was mostly easy to use, the deadtime calculation showed that in some extreme cases our measurements would not be appropriately represented, and the difficulties with the half-life measurement illustrated the importance of using proper experimental apparatus for sensitive measurements like radioactivity.

Each of the three forms of radiation had its difficulties in detection. Beta radiation was found to be the easiest to study and procured good data as it was attenuated in media. Because of this, the non-attenuated beta decay in ^{137}Cs obscures gamma ray detection. Alpha radiation was harder to see as it would so easily dissipate within air; however there is a range where acceptable measurements can be found. Overall, half-life is the most difficult to measure as it required maintaining the same experimental conditions over long periods of time.

All three forms of the radiation were random processes following a Poisson distribution. For this distribution, the statistical uncertainty of counts goes as $\sqrt{count}$. This randomness and statistical uncertainty is intrinsic to all physical processes measured in this lab.

References

[1] Wolfram—Alpha. density of air.

[2] Coursey J.S. Zucker M.A. Berger, M.J. and J. Chang. *ESTAR, PSTAR, and ASTAR: Computer Programs for Calculating Stopping-Power and Range Tables for Electrons, Protons, and Helium Ions.* (version 1.2.3). National Institute of Standards and Technology, 2005.

[3] Hubbell J.H. Seltzer S.M. Chang J. Coursey J.S. Sukumar R. Zucker D.S. Berger, M.J. and K. Olsen. *XCOM: Photon Cross Section Database.* (version 1.5). National Institute of Standards and Technology, 2010.

How Universities are Trying to Prevent LGBTQ Sexual Assault

Alexandra Peirce
From Environ 320, Environmental Journalism
nominated Julia Halpert

Alexandra selected a delicate topic for her news feature and delivered an eloquent, thoroughly investigated, beautifully written piece. The focus of her article was on initiatives by universities, including the University of Michigan, to improve sexual assault prevention programs and sexual misconduct policies to be more inclusive of LGBTQ students. Alexandra included compelling statistics that demonstrated the seriousness of the problem of abuse among students with diverse sexual identities. She was able to interview a variety of prominent experts in the field all over the country, including at the U-M and Stanford, who discussed the problem in detail, and their approaches to solving it. Those sources include the important voice of a detractor, a resident advisor who is concerned the university isn't doing enough to solve the problem. Most importantly, she was able to find a victim to share her story. This is a huge accomplishment, one that even professional journalists find challenging, as victims are often reticent to go public. Though the victim didn't feel comfortable using her real name, I verified that she did, indeed, speak with Alexandra. The writing in the article is among the best I have seen from my students. The beginning immediately engages the reader through the story of the victim. She then explains the problem and discusses its significance and responses to it through the comments from the numerous people she interviewed. The quotes are nicely interwoven into the piece. And it concludes in a poignant way, with the victim's remarks.

Alexandra skillfully tackled an extremely sensitive subject with the polish of a professional journalist. Her piece raises awareness of an issue that's important to society, and does so through writing that represents true excellence.

Julia Halpert

How Universities are Trying to Prevent LGBTQ Sexual Assault

Emily Smith*, a 20-year-old psychology major, is in a long-term relationship with a male classmate. However, she also identifies as bisexual. During her freshman year at a large private university, a female friend sexually assaulted her after they went to a Halloween party together. The assault happened after she stayed the night in her friend's dorm room. "We had kissed for the first time that night, so when she tried to go further I said no. When she took off my skirt anyway, I just froze." The next morning, Smith did not know how to process the incident and did not report the assault. "At first, I didn't realize what happened to me was rape. I had never heard of a girl sexually assaulting someone before. I didn't know it could happen."

As a bisexual rape victim, Emily is not alone. One in ten college students identify as lesbian, gay, transgender, bisexual, or queer (LGTBQ), and they are more likely to be sexually assaulted. Universities such as the University of Michigan and Stanford University are taking note of this issue and altering sexual assault prevention programs and sexual misconduct policies to be more inclusive of students with diverse sexual identities. They are hoping to create a safer campus climate for this high-risk population. A national survey by the Association of American Universities released in September found that 15% of LGBTQ students had been sexually assaulted. According to Bonnie Fischer, one of the co-principal investigators of the study, "The AAU study is one of the first to have a relatively large number of campuses and a large sample at each one of the campuses." The large size of the study makes it possible to make conclusions about underrepresented groups such as LGBTQ students. This study correlates with a University of Michigan Campus Climate survey released in June that found LGBT students were 2.5 more times likely to be sexually assault victims.

Stanford University is one of the most LGTBQ friendly universities in the country, according to the Princeton Review. Carley Flanery, the Acting Director of the Office of Sexual Assault and Relationship Abuse Education and Response, is currently working with transgender students to change campus policies. "There

needs to be a explicit and inclusive policy, the acknowledgment that they exist and that trans folks can be assaulted," says Flanery. She is also developing education programs required for panelists in Title IX hearings on how sexual and gender identities are relevant to sexual assault cases. In addition, her office is collaborating with the LGBT campus resource center to create a peer education program on sexual assault. They are currently hiring consultants to develop the curriculum with diverse identities that are knowledgeable about LGBTQ-specific issues. The program will stray from a typical presentation format. "One way conversations are inherently not inclusive. It is important to dialogue with the folks we are trying to educate. Otherwise the impact is minimal," says Flanery.

The director of the Sexual Assault Prevention and Awareness Center at the University of Michigan, Holly Rider-Milkovich, is also working closely with students. In early October, Rider-Milkovich pioneered a focus group with LGTBQ students to discuss ways to improve the university's sexual misconduct policy. Students asked to change the gender-neutral policy on sexual assault. The students additionally opposed the proposed revision that witnesses in investigations would be named in reports. According to Rider-Milkovich, "Being named a witness in an investigation could be outing to that student, and that was a concern because we do not have anti-discrimination laws in Michigan." Rider-Milkovich says they are still in the policy revision process, but she is she is optimistic they will be able to change the policy to better protect LGBTQ students.

According to Rider-Milkovich, coercion could also be one of many reasons for the increased risk of LGTBQ sexual assault. Perpetrators could threaten to disclose a student's sexual identity. This is a particular concern for college students. "Being outed could have significant repercussions in terms of potential parental financial support." Coercion also makes LGBTQ students "vulnerable to being isolated from an already small community where their identity is recognized and confirmed," says Rider-Milkovich.

Laura Palumbo, the Communications Director for the National Sexual Violence Resource Center in Philadelphia, thinks that LGBTQ students have a

higher rate of sexual assault due to the stigma surrounding their identity. "A lot of the risk factors in the LGBTQ community relate to broader issues of oppression and inequality." LGTBQ students may not feel represented in prevention programs. "There are still a lot of misconceptions about who experiences sexual assault. People assume it only happens or is happening is a heterosexual context," says Palumbo. She thinks that more universities need to have education programs that teach prevention efforts specific to LGTBQ students, similar to the programs at the University of Michigan and Stanford University.

However, Matthew Pavlovic, a 20-year-old Resident Advisor at a freshmen dorm at the University of Michigan, thinks the university needs to do more. "Freshmen have to take an online alcohol course and a follow-up during the school year. I think the best thing would to make a similar program around sexual assault prior to coming to college with regular follow-ups," says Pavlovic. He is passionate about this issue and regularly holds information sessions for his residents, but since it is not mandated by the university attendance is usually low.

Two years later, Smith has started to talk about her assault. "After it happened, I was devastated. I stopped seeing my friends and didn't go to class, but I didn't get help. I didn't want to tell anyone I was raped by a girl." It took her months to tell her Resident Advisor about the assault because she felt no one would understand her situation. She wishes that her university would have had more resources for non-heterosexual students. Currently a junior, she volunteers at her campus sexual assault resource center. "I'm trying to raise awareness about LGBTQ sexual assault. I hope that if more attention is brought to this issue, no survivors will ever feel as alone as I did."

*Name has been changed

Matthew Pavlovic puts up a poster with information about the University of Michigan Sexual Assault Prevention and Awareness Center for his residents at Oxford Houses

Resources for survivors:

National Sexual Assault Hotline:

1-800-656-4673 or https://ohl.rainn.org/online/

The Anti-Violence Project:

Hotline: 212-714-1124 or http://www.avp.org/

GLBT National Help Center

Hotline: 1-800-246-7743 or http://www.volunteerlogin.org/chat/

Winning Essays
Granader Prize for Excellence in Upper-Level Writing (social sciences)

Drought in California as a Continuation of High Modernism, Utilitarianism, and Social Inequality

Sonia Tagari

From AAS322/Environ 335, Introduction to Environmental Politics: Race, Class and Gender

nominated by Omolade Adunbi

Based on media analysis, this essay scrutinizes state perceptions of the water crisis in California. It finds these ignoring deeper social and ecological realities that underscore scarcity and drought. While high modernist ideals have constructed freshwater production, neoliberal capitalist policies have transformed water into an economic or status symbol. As such state efforts at conservation have instead produced complex and counter-productive behaviors among different communities, e.g., among farmers as well as the middle and upper urban classes. The essay finds that the transformation of water into a commodity and increasing harnessing and control of nature through technology coupled with the lack of voluntary conservation measures underlines a deep crisis of ideological misrecognition over the meaning of water. The essay is a critical and well thought out assessment of an enduring environmental problem in California.

Omolade Adunbi

Drought in California as a Continuation of High Modernism, Utilitarianism, and Social Inequality

As 2015 draws to a close, California ends its 4th consecutive year of extreme drought. Though an exact cause of the extended dry climate may not be known, its consequences are farreaching politically, sociologically, and psychologically. Anxiety surrounding drought has impacted public and private conception of water. Though California naturally hosts an arid climate in many regions, state officials view water scarcity with drawn seriousness. Definitions of water move beyond its life-giving properties, beyond its natural cycle of evaporation and precipitation, and beyond its social, cultural, and spiritual connotations. Enforced water conservation transforms water into an abstract resource for extraction and profit, highlights disparities between public and private water use, deepens socio-economic divisions, and emphasizes high modernist attempts to alter environmental phenomena in order to control the natural world.

California is wholly a product of environmental manipulation. The Gold Rush in 1849 saw miners diverting rivers and blasting through mountains, changing the state's landscape in search for handfuls of the yellow element. After reaching statehood, California experienced further change, transforming from scattered mining boomtowns to the agricultural hub of the United States. The Central Valley alone, stretching from Sacramento Valley through San Joaquin and ending near Bakersfield in Tulare, produces a quarter of the nation's food and 40% of the nation's fruits and nuts (USGS, 2015). National agricultural output hinges on California farm productivity. California produces over 300 different crops and leads the nation in farm output, but this agrarian power is not possible without extensive irrigation (California Drought, 2015).

The Sierra Nevada snowpack is vital to this irrigation. Winter snowfall melts to provide the Sierra-Cascade with summer and fall surface freshwater, yielding an estimated one third of the water available in the Californian supply (USDA, 2015). Two hydraulic pumps, the federally run Central Valley Project

and the California-owned State Water Project, transport water from the Sierra Nevadas through a region called the Delta, located in the northern portion of the Central Valley, and down to the farms and cities of Central and Southern California (Madrigal, 2014). This dramatic transport of water highlights how human manipulation and control of the environment is vital for Californian agriculture and urban society. Other state water supplies include underground aquifers and groundwater reserves, which are a key source during drought years (Madrigal, 2014).

During 2015, the snowpack held a water content only 5% of normal volume and the average temperature was the highest on record in 120 years (Stevens, Oct. 2015). Since agriculture in California consumes 40% of the state's water, shrinking water supply impacts the $46.4 billion farm industry that contributes to the overall $2.3 trillion statewide economy (California Drought, 2015). Governor Jerry Brown enacted compulsory water conservation mandates affecting civilian water use. Although urban consumption only accounts for 10% of water allocation, with the remaining 50% flowing to rivers and lakes on environmental reserves, the state levied this 25% reduction in urban water use without restricting agricultural use (California Drought, 2015). State treatment of agricultural water use presents a stark contrast to the treatment of city water use. The California Department of Food and Agriculture (CDFA) offers grants and subsidies to farms implementing improved water irrigation systems and reducing energy consumption (CDFA, 2015). While individual water use is restricted and enforced by fines and higher water bills, agricultural industries are rewarded for conservation efforts.

Civilian restrictions on water in favour of agricultural production cause a variety of complex social and ecological consequences at all levels of water production and distribution. At the top of the water distribution chain, Governor Brown proposed restructuring and remodelling the State Water Project facility (Madrigal, 2014). Governor Brown plans to bore two tunnels beneath the Delta to expedite water transport and, with the implementation of newly developed fish

screens, prevent endangered water fauna from becoming trapped in the hydraulic pumps (Madrigal, 2014). The drought has increased the threat to many of California's hatcheries, either from rivers running dry or lethally high water temperatures, causing environmental agencies to put pressure on the State Water Project to improve animal protection measures (California Drought, 2015). As the dry climate affects the water systems that accommodate for a lack of surface water in the Central Valley and in Southern California, the state government emphasizes technology and man-made projects to harness and control nature once again in the face of water scarcity. The state aims to continue the production output and status quo established during wetter years.

Though Central Valley farmers and major Californian cities rely on water from Sierra Nevada rivers, canals, and tributaries that flow through the Delta to the hydro pumps, communities surrounding the Delta fear the tunnels will diminish the area's freshwater supply (Madrigal, 2014). In favour of providing the major cities and large scale farmers of the south with water, the California state government ignores the needs of the local cities and smaller farmers in the Delta. Water becomes a commodity shipped to the agrarian producers and urban centers viewed by the state as most productive and most necessary for the Californian economy. This utilitarian outlook has roots in neoliberal and capitalist ideals that emphasize production and economic profit, contributing to the definition of water as a utility. Without consideration to the communities surrounding the Delta, continued pumping of freshwater through the State Water Project may force the relocation of the local citizens, many of whom have been in the region for multiple generations (Madrigal, 2014).

Displacement threatens communities and farmers beyond the Delta. Drought is a direct cause of unemployment within the farming industry. Economic reports predict anywhere from 10,100 to 21,000 total agricultural job losses resulting from the 2015 drought year alone (Howitt, UC Davis, 2015). The White House has taken notice, devoting $18 million in the 2016 Fiscal Year Budget to bolster and employ those workers dislocated by the water shortage

(WhiteHouse.gov). Yet, there are few details describing the allocation of this funding to those displaced by the drought. Even with monetary support, the loss of land and livelihood resulting from the drought may have a much steeper social and psychological price. Land and business hold value beyond physical location, embodying social memory and personal identity for farmers.

This steeper psychological price shows in the Central Valley. To avoid displacement, many farmers scramble for groundwater to help alleviate crop reduction and avoid leaving land fallow. While the state has not directly mandated for the agricultural industry to reduce water consumption, there are restrictions on access to natural rivers and reservoirs. In face of these restrictions, farmers are drilling deeper and deeper into the underground clay layers for water extraction, rapidly and vastly depleting the groundwater stores so vital for sustaining agriculture during dry years (Goldenberg, Nov 2015). Because the drought has stretched over four years now, the extensive drilling is causing the ground to sink and collapse above the aquifers, damaging infrastructure such as roads, pipelines, and bridges (Goldenberg, Nov 2015). Although one can argue that farmers have the option to extract groundwater, doing so directly harms the farming communities and surrounding infrastructure.

It is important to note that the federal funding focuses on agricultural job losses resulting from the drought, not accounting for cases of displacement beyond the agricultural community. This emphasis on agricultural production creates a separation between the economically important farmers and the other citizens who are affected by the drought through civilian water cuts. Though the White House plans to allot $7 million of the 2016 Fiscal Year Budget to "address drought-related needs of water utilities and households", again there is no description of how and where these funds will be used aside from "infrastructure" (White House, 2015). Yet, infrastructure serves a dual purpose beyond aiding communities exclusively: improved infrastructure results in improved efficiency of delivering water as a utility. Aid efforts from the federal government, though likely to provide some relief, are nonetheless entrenched in economic gain.

The state's influence is most present at the municipal level. As the concept of water shifts to a resource, neoliberal characteristics of individualization emerge within the conservation effort. Despite civilian use only accounting for 10% of California's water consumption, the state places the greatest restrictions on the urban people. Furthermore, the lower socioeconomic classes bear the brunt of these restrictions. Though the implementation of statewide water use reduction of 25% is in effect, conservation does not manifest itself equally across the socioeconomic spectrum. The 25% reduction is not a flat rate; the state government attempted to direct the highest demanded decrease at wealthy communities. Areas including Beverly Hills, Cowan Heights, and Hillsborough face 36% cuts whereas lower income regions Inglewood and Compton must reduce by 12% and 8% respectively (Nagourney, Healy, April 2015).

Yet, conservation produces different behaviours in different communities. While the wealthy of Cowan Heights and Beverly Hills may choose to re-landscape their green lawns, transforming their grounds into beautiful drought-friendly gardens, low-income residents are forced to conserve out of fiscal necessity. Fines for failing to meet water consumption restrictions force some residents to skip showers, avoid flushing toilets, and only do laundry when absolutely necessary (Nagourney, Healy, April 2015). Thus, conservation means very different lifestyle adjustment across socioeconomic levels. There is a significant gap in severity between choosing not to water a lawn and feeling the need to forgo sanitation and self-care. The psychological impact of being unable to clean oneself and the social stereotypes surrounding those who do not bathe, or in this case cannot afford to bathe, bear a much stronger negative effect on the poorer communities. As water becomes defined as a fiscal burden, it loses its social and cultural importance as a cleansing, purifying agent. In this sense, the civilian restrictions on water consumption overlook the social and cultural meanings of water as a tool for sanitation and cleanliness in favour of water as an agrarian resource necessary for production. Individualization of the conservation effort serves to perpetuate the inequality that stems from a capitalist system.

Regardless of state attempts to evenly distribute water restrictions, the low-income residents will always be under greater pressure to cut back water costs in order to avoid fines. In some areas, trends emerge where the conservation efforts of the lower socio-economic citizens bring the respective county to its water reduction goals, allowing the upper classes to continue their unchecked consumption (Nagourney, Healy, April 2015). Similarly, while the poorer citizens must adjust in order to avoid fines, many wealthy individuals are able to afford fines and do not face the same fiscal concerns. Despite the deepening drought and skyrocketing water rates, the rich continue to consume without attempting to change their lifestyles. The lawns are still verdant in Beverly Hills, the backyard swimming pools still gleam in Cowan Heights.

Perhaps the lack of voluntary conservation on the part of the middle and upper classes reflects stereotypes that perceive drought as a Global South issue and reflects the cultural narrative of the "California Dream". Since the Gold Rush, California lore depicts the state as a fertile paradise, where any individual with a strong work ethic can resettle to get rich quick or where any wealthy American seeking sandy beaches, breezy weather, and flowing wine from the
Napa vineyards can travel for a vacation (VisitCalifornia.org). The physical appearance of the landscape significantly influences the public conceptualization of California, causing the state to participate in an economy of appearances, or a performance of an exaggerated, often fabricated, visual aesthetic (Tsing, 2005, p. 57). The Golden State must maintain a lush facade to secure its role as a global entertainment capital and to attract the throngs of tourists visiting Los Angeles, Hollywood, San Diego, and San Francisco. With a statehood narrative as a land of wealth and opportunity, any shortage threatens this appearance, especially a shortage of a substance as vital to daily life as water.

Often, citizens of the Global North associate drought and other shortages of basic necessities exclusively with the Global South. Lack of resources seems incompatible with the perception of a modern Western nation as organized and capable of providing for its people. Perhaps drought apathy at the level of middle

and upper class citizens in California resonates with this false concept. Having become accustomed to significant water consumption, many wealthy individuals view the water cuts and rising water prices as an infringement on their right to access water, proclaiming that this "necessity of life" should not be bought and sold as a product or commodity (Nagourney, Healy, April 2015). Yet, these same individuals continue to use water for extensive landscaping. Approximately half of the urban water consumption in California is used on residential landscaping (California Drought, 2015). Again, the economy of appearances arises with the desire to maintain a certain level of water use and a certain landscaping aesthetic, often of emerald green lawns seeded by non-native grasses.

As drought continues, water becomes a status symbol and a product for consumption. Far from a "necessity of life" for all, water transforms into a luxury and a commodity under neoliberal capitalist systems. This concept of luxury and commodity is further expanded with water extraction investments, which would shift water distribution into a private sector. A future-oriented consequence of drought and conservation, water prospecting takes two primary forms in California: extraction and desalination. Private investors liken water to oil as a "scarce resource that will define the 21st century", solidifying water's definition as a commodity for consumption as opposed to a component of social and cultural interaction and a substance necessary for life (Schwartz, Sept. 2015). This shift in conceptualization of water and this direction toward privatization is disconcerting. It may come to pass that water distribution becomes entirely privatized, sold to the highest bidder.

Desalination efforts spotlight high modernist hopes to use technological advancements to control the natural world. Converting salt water to potable freshwater has been the envy of coastal California, bordered by the vast waters of Pacific Ocean while being half a decade into extreme drought. In the hopes of securing a "renewable" source of freshwater, Poseidon Water has constructed a desalination plant in Carlsbad near San Diego. Desalination involves the reverseosmosis process, which forces water through a polymer membrane that

traps salts and strains out water, and is the most expensive source of freshwater (Talbot, Dec. 2014). Though desalination is a last resort, with conservation and recycling presently paramount, private production of freshwater raises many questions of social concern. Desalination consumes a remarkable amount of energy, causing Poseidon Water's product to be priced at more than 80%
of what Carlsbad county pays for water presently (Talbot, Dec. 2014). If civilians are already struggling with increasing water rates and conservation fines, how can anyone below the upper-middle class afford this "product"?

"Water is what we make of it", remarks Jamie Linton in his book *What is Water?* (Linton, 2010). Concepts of water serve to define its treatment and distribution. Viewing water through a capitalist lens as both a utility and a product affects state policy surrounding conservation. Favouring agricultural use, the California state government and the federal government have not placed explicit restriction on water consumption by farmers. Both levels of government have provided subsidies and monetary relief aid in the millions of dollars to alleviate the effects of drought on farms. In this sense, water becomes a tool for agricultural and economic production. Civilians bear the brunt of conservation demands despite consuming only 10% of the state's water supply. Although the state attempted to tier conservation demands, its effects are not equal across socioeconomic levels in Californian urban centers. In many cases, low-income communities are the most impacted by water restrictions, changing the concept of water from a household necessity to a monetary expense. Economy of appearances and stereotypes surrounding drought prevent many wealthy citizens from fully partaking in conservation efforts and they choose to maintain high water consumption lifestyles without making any major changes. Here, water is a social symbol and a mark of luxury. As the drought deepens, water becomes a resource and a product, attracting corporate investment and privatization in the hopes of future profit. Yet, all these views of water ignore the complex social and ecological effects of water scarcity and drought.

Sources

CDFA, C. (2015, September 28). CDFA Public Affairs Press Release. Retrieved December 15, 2015, from https://www.cdfa.ca.gov/egov/Press_Releases/Press_Release.asp?PRnum=15045

California Drought. (n.d.). How Water Is Used in California. Retrieved December 15, 2015, from http://ca.gov/drought/howwaterisused.html

Howitt, R., MacEwan, D., MedellinAzuara, J., Lund, J., & Sumner, D. (2015). Economic Analysis of the 2015 Drought for California Agriculture. UC Davis Center for Watershed Sciences.

Linton, J. (2010). What is water?: The history of a modern abstraction. Vancouver: UBC Press.

Madrigal, A. (2015, February 24). American Aqueduct: The Great California Water Saga. The Atlantic.

Nagourney, A., & Healy, J. (2015, April 26). Drought Frames Economic Divide of Californians. Retrieved December 15, 2015, from http://www.nytimes.com/2015/04/27/us/droughtwidenseconomicdivideforcalifornians.html

Schwartz, N. (2015, September 24). Investors Are Mining for Water, the Next Hot Commodity. Retrieved December 15, 2015, from http://www.nytimes.com/2015/09/25/business/energyenvironment/privatewaterprojectslureinvestorspreferablypatientones.html

Stevens, M. (2015, October 1). Retrieved December 15, 2015, from http://www.latimes.com/local/lanow/lamelngrimconsequencesofcaliforniadroughtacceleratingin201520151001story.html

Talbot, D. (2014, December 16). California Turns to the Pacific Ocean for Water | MIT Technology Review. Retrieved December 15, 2015, from http://www.technologyreview.com/featuredstory/533446/desalination outofdesperation/

Tsing, A. (2005). ... Friction: An ethnography of global connection . Princeton, NJ: Princeton University Press.

USDA, U. (2015, June 24). U.S. Department of Agriculture. Retrieved Decem- ber 15, 2015, from http://www.usda.gov/wps/portal/usda/us dahome?contentidonly=true&contentid=2015/06/0185.xml

USGS, U. (n.d.). California's Central Valley. Retrieved December 15, 2015, from http://ca.water.usgs.gov/projects/centralvalley/aboutcentralvalley. html

Visit California. (2015). CALIFORNIA. Retrieved December 15, 2015, from http://www.visitcalifornia.com/

White House, O. (2015, June 12). FACT SHEET: Supporting Workers, Farmers, and Communities Suffering from Drought. Retrieved December 15, 2015, from https://www.whitehouse.gov/thepressof fice/2015/06/12/factsheetsupportingworkersfarmersandcommunities sufferingdrought

A Comparison of Elite Egyptian and Roman Tombs

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From ANTHRARC 386, Early Civilizations
nominated by Robin Beck; Travis Williams GSI

For their final paper, students were asked to compare and contrast monumental architecture in two societies we learned about in class. Nicole's paper, "A Comparison of Elite Egyptian and Roman Tombs," provided a welcome divergence from most other responses to the prompt in both subject and style. Her writing was engaging without sacrificing substance. We hope that you enjoy it as much as we did.

Robin Beck

A Comparison of Elite Egyptian and Roman Tombs

Abstract

A thorough understanding of a society's cultural beliefs is crucial in properly analyzing their material remains in the archaeological record, to comprehend the artifacts as they were meant to be comprehended. This is especially true when approaching a society's funerary artifacts, which are often dominated by religious ideology. Such religious influence on funerary art and architecture is particularly evident when comparing the tombs of the ancient Egyptians and Romans. For the Egyptians, who believed that life extended well beyond mortal death, tombs were places to prepare and guard the deceased for their afterlife. But for the Romans, who understand the underworld to be an end to life, tombs were places for the living to display their wealth and familial connections. But despite the differences in their style, both served to fulfill the very human need of honoring and remembering the dead.

Introduction

It was Benjamin Franklin who famously said that there are only two things certain in life: death and taxes (Franklin 1840). However, though death is an omnipresent aspect of life, every culture has a different way of dealing with it based on religious and cultural beliefs that are unique to each culture. The Romans and the Egyptians are no exception to this rule. They are two legendary ancient civilizations remembered today for their famous leaders, immense monuments, and rich cultures. These rich cultures are especially well recorded in the things left behind by the elite, who had the ability to build and leave behind objects that were exceptionally fine and well built. But, for all of their similarities, the Romans and Egyptians had distinct understandings of the world that defined their behaviors and material cultures. The effects of these differing understandings are present in many aspects of their lives, which they left behind for us, but perhaps most distinctly so in their funerary monuments.

Roman Ideologies of Death

For the Romans, death was an inevitable event that was treated almost nonchalantly. This attitude is perhaps best summarized by an Epicurean epitaph seen on many Roman tombstones, "Non fui, fui, non sum, non curo," (Rosenbaum 1986). Though difficult to translate well into English, this phrase is generally taken to mean, "I was not, I was, I am not, I do not care." This blasé attitude towards death is no doubt a result of their understanding of the afterlife. Our own understanding of the Roman underworld is largely based upon Vergil's description of it in *The Aeneid*. According to Vergil, who certainly drew upon existing religious traditions to provide these descriptions, there were three levels of the Roman underworld. The first, Elysium, was reserved for Rome's most celebrated heroes and citizens (Ruden 2008:112). Characterized by lush greenery, sunshine, and abundance, this is essentially the Roman equivalent of the Christian concept of heaven. The second level is somewhat unclear, as Vergil calls it by several names, but it seems to be a place for those who were neither good nor bad in their lives. Unlike Elysium, those assigned to this fate were faced with eternal wandering as a shade or spirit (Ruden 2008:130). The final level of the underworld was called Tartarus, where the wicked spent their eternities in agony.

Though there are several different levels of the underworld, the Romans understood all of them to be the end of a person's mortal life. Therefore, there was no need for a person to be buried with many funerary goods since they could not take anything with them into the afterlife. There is, however, one exception to this rule. Roman myth said that the underworld was separated from the mortal realm by the river Styx and, in order to cross into the underworld, the recently deceased had to present the ferryman Charon with a coin. Therefore, upon an individual's death a single coin was placed under the deceased's tongue. For the elite, who are the focus of this paper, the subsequent funeral was both a celebration of the deceased's accomplishments and of the living family's status. Elaborate eulogies were given publicly by the deceased's closest surviving relatives and then the deceased was placed in a tomb, often having been cremated. Under Roman law, no burials

could occur within a city's wall. Therefore the vast majority of elite tombs were located on major roads leading out of cities. Like the funerals, the tombs themselves were indications of both individual and familial status. "Non fui, fui, non sum, non curo," (Rosenbaum 1986) an individual might be gone, but their life's accomplishments could live on forever through the memory of their name and the monuments built in their honor.

Examples of Roman Funerary Architecture

One of Rome's more memorable monuments is the 30 meter-tall pyramid for which the nearby metro stop, Piramide, was named. But besides being the namesake of a metro stop, this monument is also Rome's most unique tomb. The pyramid was built by Gaius Cestius, who lived alongside Augustus, around 18 BCE as Cestius' final resting place (Toynbee 1971:127). Located along the ancient Via Ostiensis, which led from Rome to the ancient port of Ostia, this tomb would have been viewed by the endless stream of travelers coming to and from the city. Reflecting a Roman obsession with Egyptian culture following Augustus' defeat of Cleopatra in 30 BCE, this pyramid was fashioned from brick and then faced with travertine marble. However, though the outside of the pyramid may be reminiscent of Egypt the inside of the pyramid is all Rome. Though it was looted in antiquity, the inside of the tomb is a typical barrel vault decorated in the second Pompeian style of painting. Additionally, inscriptions on the outside of the pyramid are equally stereotypical of a Roman tomb. The inscription, though badly faded today, translates to:

> Gaius Cestius Epulo, son of Luciius, of the tribe Poblilia, praetor, tribune of the plebs, member of the Board of Seven of the Epulones.
>
> The work was completed in accordance with the will in three hundred and thirty days at the discretion of Pontus Mela, son of Publius, of the tribe Claudia, his heir, and of the freedman Pothos. (Lansford 2011)

With this single inscription, Cestius ensured that his name and accomplishments would be remembered long after his death.

Equally concerned with preserving his memory for the years to come was Marcus Virgileus Eurysaces who constructed his tomb at the juncture of the Via Praenestina and Via Labicana, two major roads into the ancient city. Though unique in its shape, his tomb is famous for being among the best preserved in Rome and for belonging to a freedman, someone who was formerly a slave. It is almost universally accepted that Eurysaces was a freedman for two reasons (Petersen 2003:230). The first lies within his name, which is undeniably Greek and has led to the assumption that he was of Greek origin, not Roman by birth. The second reason lies within the decorative elements of the tomb itself, which depicts figures baking bread. Such manual labor is associated with slaves or non-elite citizens, like Eurysaces would have been. It is therefore theorized that he was likely an ex-slave who made his fortune in a bakery (Petersen 2003:230); this hypothesis is supported by the tomb's inscription, "This is the monument of Marcus Vergilius Eurysaces, baker, contractor, public servant," (Petersen 2003:230). Like many Roman tombs, Eurysaces' was looted in antiquity, but the celebration of his accomplishments and life carved into the façade of the tomb remain untouched. Telling the story of a man who built himself up from nothing, this tomb stands as a symbol of success and pride over 2,000 years after its completion.

Though both of the previous examples were located along frequently traveled roads outside city walls, as was the law, there was one citizen who was not limited by such rules- the emperor. Though several emperors were buried in Rome, no emperor's tomb is quite as eye-catching as Trajan's. But, despite its prominent place in the modern Piazza Venezia, few people know that it was the emperor's final resting place. This ignorance is largely due to the monument's decidedly un-tomb-like appearance. Rising 30 meters into the sky, Trajan's tomb takes the form of a massive column sitting on an equally imposing marble base. The column features a 200-meter frieze, which wraps from the bottom of the column to the top, illustrating Trajan's entire Dacian campaign. Besides serving

as a reminder of Trajan's prowess as a military leader, it shows him as a merciful and just ruler. It is not certain whether or not the column was always intended as Trajan's final resting place, but an inscription on the column's base indicates that he was buried in the column by order of the Senate (Davies 1997).

For many years it was believed that the frieze on Trajan's column was used to celebrate the Roman campaign in Dacia. However recent scholarship suggests that the scrolling design of the frieze suggests that the purpose of the monument was indeed reflection, but reflection upon the emperor himself- not the wars (Davies 1997). After all, in order to view the monument in its entirety an individual would have to spend several moments walking around the column, viewing all of Trajan's most memorable accomplishments. With this explanation, it is clear that Trajan's column was a brilliant execution of all the key elements of a Roman tomb. First, the monument is clearly visible in Rome's city center. Secondly, his name and rank are clearly displayed on the monument's façade. Finally, and most importantly, his memory is celebrated and immortalized in the monument's decoration.

Egyptian Ideologies of Death

While Roman tombs emphasized remembering and celebrating an individual's life, Egyptian tombs focused on preparing an individual for their journey into the afterlife. For the Egyptians, death was not the end of life but rather a transition into another realm. This transition was made by journeying into the underworld and undergoing a judgment process in front of the god of the underworld himself, Osiris (Wallis 1900:136). During this process, the person's heart was put on a scale and weighed against a feather (Wallis 1900:154). Unlike the Roman underworld, the Egyptians believed in only two outcomes to this judgment process. If one's heart was lighter than a feather, they proceeded into the afterlife where they would continue living much as they had during life. If, however, their heart was heavier than the feather it would be destroyed and the person's soul would cease to exist.

Since the Egyptian's understood the afterlife to be an extension of one's mortal life, it was necessary for an individual's body to be preserved and for them to be accompanied by things that they needed during their mortal life (Wallis 1900:189). Additionally, the journey into the underworld was believed to be an especially dangerous passage and so the Egyptian's armed their recently deceased with powerful objects and incantations (Wallis 1900:189). Among the most important of these objects was the Book of the Dead and the Amduat, which both served as guidebooks to navigating the underworld and were frequently incorporated into Egyptian tombs (Wallis 1900:11).

Upon an individual's death, their body was mummified carefully and sealed into their tomb. However, before their body could be laid to rest a series of important rituals had to occur. The most important such ritual was the Opening of the Mouth ceremony, in which the deceased's mouth would symbolically be reopened through libations and prayer (The British Museum 2015). This was a crucial step in the burial process because the Egyptians believed that unless this ritual was performed, the deceased would be unable to eat or drink again in their afterlife. By reopening an individual's mouth, that person was essentially brought back to life.

Examples of Egyptian Funerary Architecture

Egypt's most famous tomb, the tomb of Tutankhamen, is an excellent example of the ideas mentioned above. Situated in the Valley of the Kings, Tutankhamen's tomb, sometimes referred to as KV62, was found in the early 20th century by Howard Carter (Olszewski and Wenke 2009). As was typical of tombs during the Eighteenth Dynasty, Tutankhamen's tomb was completely subterranean and quickly covered after his burial. In fact there is evidence to suggest that later worker's huts were erected on top of the covered entrance, which indicates that even in antiquity no one was aware of the tomb's location (Theban Mapping Project). Since the tomb was forgotten and not looted in antiquity by robbers, as many Egyptian tombs were, it allows researchers to examine fully what the

ancient Egyptians deemed necessary for inclusion in burial chambers. Despite its extravagant contents, Tutankhamen's tomb is surprisingly small for someone of his status, which has led some scholars to argue that this tomb was not originally meant to be the young pharaoh's (Dodson and Ikram 2008:245). Tutankhamen died suddenly at a young age and would not have had the time required to build a tomb fit for a pharaoh, perhaps requiring him to use a tomb meant for another. Possibly because of the resulting spatial constraints, the sacred and protective spells from the Amduat, Litany of Re, and the Book of the Dead were included in the small shrines placed around the young pharaoh's coffin instead of being carved into the walls (Dodson and Ikram 2008:246). But, regardless of the limitations due to the tomb's size, all of the major funerary elements are still present. He was buried with furniture, jars of honey, foodstuffs, and other luxuries that would allow his afterlife to be just as pleasant as his life on Earth (Emory University 2015).

Though now famous for its gilded treasures, it is important to remember that Tutankhamen's tomb was probably not unusual for pharaonic tombs- it is just one of our better examples of what a royal burial looked like before it was looted. His tomb stands as physical proof of his people's funerary practices, which we knew much about from texts but until this discovery had little physical evidence of. For instance, one image from the tomb's wall paintings shows Ay performing the important Opening of the Mouth ritual for Tutankhamen, thus solidifying his place as Tutankhamen's successor (Dodson and Ikram 2008:246). Additionally, the tomb was so well preserved that flowers and other perishables were still present, like the flowered collar around the pharaoh's innermost coffin (Hepper 2009:9). Though the tomb has its share of gold, the truly invaluable artifacts are these other things that do not appear in other tombs and allow us a clear picture of what an undisturbed Egyptian tomb was supposed to be.

Although not nearly as wealthy as the tomb of Tutankhamen in the Valley of the Kings, the tomb of Panehsy allows scholars an interesting glimpse into what an elite Egyptian's tomb looked like. An official during the reign of Psamtek I, Panehsy's tomb was built in Memphis around in the beginning of the 7th century

BCE (Stammers 2009:142). A vaulted chamber tomb, like many of the tombs built during this period, Panehsy's tomb was thoroughly decorated with elaborate carvings and paintings meant to protect and guide his spirit into the afterlife. Like Tutakhamen's tomb, it includes excerpts from the Amduat and the Book of the Dead. However it also has paintings that show Panehsy himself. One such scene shows the deceased surrounded by four baboons, four being a number associated with completion and baboons being associated with rebirth (Stammers 2009:143). Other motifs like lotus blossoms and the goddess Nut, both associated with rebirth and protection (Stammers 2009:144), further prove the importance of protecting the corpse and rebirth in Egyptian funerary customs.

In fact, this concept of protecting and preserving the deceased's corpse was of such monumental importance that several royal mummies appear to have been moved in antiquity to protect them from harm. In the Valley of the Kings, not so far from the tomb of Tutankhamen, archaeologists uncovered KV35. Originally built for the 18th dynasty pharaoh, Amenhotep II, this tomb was used as a cache for many of the New Kingdom's pharaohs and queens (Harris et al. 1978:1149). It seems that at some point during the 21st dynasty, someone gathered the royal mummies from their looted tombs and deposited their bodies in this safer location. The motivation for this can be inferred from what we know about the Egyptian belief about death and the afterlife. If one's afterlife depended upon the protection and preservation of one's body, to have one's body damaged or violated would have detrimental affects on the person's ability to live on in the afterlife. It seems that the Egyptians went to great length to discourage such vandalizing. Though not extraordinarily common, curses do occasionally appear on tomb walls promising harm to those who would disturb the dead (Dodson and Ikram 2008:131).

Analysis of Differing Funerary Customs

This fear of desecration is a result of the most profound difference between Roman and Egyptian understandings of death. For the Romans, one's

mortal life ended when their heart stopped beating. It was not necessary for their bodies to remain intact nor was it imperative for them to be buried with mortal necessities. Roman tombs, often housing the cremated remains of the deceased, were monuments meant to impress the living. Egyptian tombs, on the other hand, were essentially safe-deposit boxes in which the deceased and the things they would require to live a healthy afterlife were deposited. While the Romans built monumental and eye-catching tombs along prominent roads, the Egyptians hid their tombs underground and in cliffs in an effort to hide them from would-be grave robbers.

But, despite their differences, both Romans and the Egyptian tombs were built to honor the deceased. For the Romans, honor came in the form of both the tomb itself and the inscriptions included with it. A Roman tomb, built prominently along a major road, stood as a testament to its owner's economical and social status. The inscriptions, which decorated the sides of all such tombs, acted as perpetual billboards of the deceased's accomplishments and genealogy. Though more nuanced, honor was equally integral to Egyptian tombs. The lavish decorations and funerary goods that are often associated with Egyptian tombs indicate that incredible amounts of both time and money were poured into making a tomb worthy of its inhabitants. Regardless of what they believed happened after death, both societies saw it important to honor loved ones with a proper burial.

Conclusion

Rituals and practices associated with the dead have been important to humanity since the dawn of time. It is not surprising that the Romans and the Egyptians, two of the ancient world's most prolific empires, had elaborate ideas regarding death and the architecture associated with it. Though they had very different approaches to what funerary monuments should look like and how they should function, such approaches were shaped by their very different religious beliefs surrounding the concept of death. Roman funerary architecture functions as a celebration of an individual's accomplishments in life, because nothing was

more important to a Roman than their honor. Since the Egyptians did not view death as the end of life, but merely a transition into a new stage of it, funerary monuments functioned as places of safety while the transition was being made. But, regardless of their differences, both cultures demonstrate a very human need in their funerary monuments- to bury and remember their dead.

Works Cited

American University in Cairo

2006 Theban Mapping Project. Electronic Document. http://www.thebanmappingproject.com/sites/browse_tomb_876.html

The British Museum

2015 The "Opening of the Mouth" Ritual. Electronic Document. http://www.britishmuseum.org/explore/highlights/article_index/o/the_opening_of_the_m outh_ritua.aspx

Budge, Wallis

1900 *Of the Future Life: Egyptian Religion*. Bell Publishing Company, New York, NY.

Davies, Penelope J. E.

1997 Trajan's Column and the Art of Commemoration. *American Journal of Archaeology* 101(1):41-65

Dodson, Aidan and Salima Ikram

2008 *The Tomb in Ancient Egypt*. Thames and Hudson, London, UK.

Emory University

2015 Classroom TUTorials. Electronic Document. http://www.carlos.emory.edu/PDF/Classroom%20TUTorial_Tomb.pdf

Flinders, W. M. Petrie

1906 *The Religion of Ancient Egypt*. A Constable & Co. Ltd., London, UK.

Franklin, Benjamin

1840 *The Works of Benjamin Franklin*. Hilliard, Gray, and Co., Boston, MA.

Harris, James E., Edward F. Wente, Charles F. Cox, Ibrahim El Nawaway,

Charles J. Kowalski, Arthur T. Storey, William R. Russell, Paul V. Ponitz and Geoffrey F. Walker

1978 Mummy of the "Elder Lady" in the Tomb of Amenhtep II: Egyptian Museum Catalog Number 61070. Science 200(4346):1149-1151

Lansford, Tyler

2009 *The Latin Inscriptions of Rome: A Walking Guide*. Johns Hopkins University Press, Baltimore, MD.

O'Brian, Alexandra

1999 Oriental Institute Research Archives: Death in Ancient Egypt. Electronic Document. http://oi-archive.uchicago.edu/OI/DEPT/RA/ABZU/DEATH.HTML, accessed on March 24th, 2015.

Petersen, Lauren Hackworth

2003 The Baker, His Tomb, His Wife, and Her Breadbasket: The Mon ument of Eurysaces in Rome. *The Art Bulletin* 85(2):230-257

Stammers, Michael

2009 *The Elite Late Period Egyptian Tombs of Memphis*. Archaeopress, Oxford, UK.

Rosenbaum, Stephen E.

1986 How to Be Dead and Not Care: A Defense of Epicurus. *American Philosophical Quarterly* 23(2):217-225

Toynbee, J. M. C.

1971 *Death and Burial in the Roman World*. Cornell University Press, Ithaca, NY.

Vergil

2008 *The Aeneid*. Translated by Sarah Ruden. Yale University Press, New Haven.

Winning Essays
Granader Prize for Excellence in Upper-Level Writing (humanities)

Dying in America

Bethany Canning
From Writing 420, Minor in Writing Capstone
nominated by Paul Barron

Like many other aspects of medicine, the medical approach to the dying process is heavily under the influence of cultural feelings about death. And the cultural feelings about death are mostly negative. This is the premise from which Bethany Canning investigates what it means to die in America. The essay opens up questions on the manner in which people face their final days with great sensitivity, laser sharp precision, and no trace of sentimentality. Based both in secondary research and personal accounts, this essay is a perfect marriage between the head and the heart.

Paul Barron

Dying in America

How Should We Care?

The intensive-care unit at U of M is not where I wanted to find myself on a Wednesday evening late in February. I was there to see my grandpa who had been airlifted to the hospital earlier that day. As I walked through the neatly decorated lobby of the general hospital, I prayed that he was better than my parents said he was. I hoped that having completed the long anticipated trip and being back in Michigan had calmed his anxiety and maybe was allowing him to breath a little easier. The quiet stillness of the hospital made it easy to imagine that everything was under control. Every hallway I walked through offered grand windows overlooking courtyards and the majestic stretch of one of the best hospitals in the country. When I reached the ICU, the serenity of the halls was broken by many shuffling feet and beeping monitors. The hallways seemed suddenly to shrink and every face looked strained. I was immediately stopped and asked who I was looking for, then given a room number and pointed to the end of the hall. My grandpa burst into a smile when I stepped into the room and all I could think was that he shouldn't be there.

Just a few months ago, my parents, aunts, and uncles found themselves thrown into a world where communication fails, talking in circles replaces productive decision making, and emotions seem only to bounce back and forth between feelings of overwhelming sadness and frustration.

These events happened mostly in a hospital in Orlando, Florida where my snowbird grandparents found themselves after my grandpa's already difficult breathing became increasingly labored. The doctors in the emergency room needed only a look at him to know that he was in dire straits. Pneumonia had set in and for an eighty-year-old man whose lungs were already compromised by lung cancer and COPD, it was very bad news. What followed were many doctors, therapists, hard choices, transitions, and a plethora of opinions.

My grandpa died on March 11th. In a matter of days, I made the mental

transition from thinking my grandpa, the MSU fan, would keep giving me grief over going to school at U of M and bellowing out my name every time I saw him like he couldn't be happier to see me for years to come to understanding that I had likely seen him for the last time. It had never before occurred to me that the man who was one of the biggest supporters of my education and who never stopped telling me how proud he was of me might not see me graduate. The feeling was something like whiplash.

Death is chaotic and it is surprising. It is unpredictable even when we see it coming. My grandpa was not in great shape before he was hospitalized but I think it shocked us all to see his health deteriorate over the next month. There were little blessings. His oxygen need would decrease slightly and he could speak with relative comfort. A shift from eleven liters of oxygen to eight was not an insignificant factor when it came to hope. But there were many times when something would change for the worse. His oxygen saturation would drop or his usually sharp mind would seem confused. At these times, we worried and my parents, aunts, and uncles asked every doctor who walked in the room what could be done to get him better. Though they are hard to hear, straightforward answers and plans of action satiate those who are losing a family member. But often the answers are not as straightforward as we would like, the plans involving far more waiting than we would hope. For my parents, this lack of answers meant traveling to Florida several times to be with my grandparents and to question his doctors. When could they get him home to Michigan? What was needed to get him discharged from the hospital? Was rehab to strengthen his legs and get him walking again - as was suggested by one of his doctors - a viable option? His doctors rotated shifts in the hospital so he saw many different doctors with many different opinions. Some said getting to Michigan was out of the question- his lungs were too weak for travel- while others said he could go in a few days. Treatment and management plans were proposed, extensively discussed, and dismissed.

Paul Kalanithi, a neurosurgeon who recently passed away at the age of 37, wrote several articles on facing mortality in which he recognized the change

in the way time passes, the joys he found at the end of his life, and his interactions with his oncologist. In a Stanford Medicine article published just after his death, Rosanne Spector wrote, "His 'dual citizenship' as a doctor and as a seriously ill patient had taught him that respectful communication is the bedrock of all medicine" (Spector 2015). Medicine's role in a dying person's life seems clear. Medicine serves the individual. It focuses on giving a patient options and respectfully offering its expertise to ease the pain of the terminally ill and to ensure a peaceful passing from this life. The execution of this notion of medicine, though, is not at all clear. Death is not uniform and it is not simple. Every person carries their own emotional, spiritual, and physical burdens, wishes, and goals. It is hardly surprising that many physicians avoid discussing death even with their patients with terminal illnesses. My grandpa's doctors never brought up death in all their conversations with him and with my family. Even when they advised him not to pursue further treatments, a shift from curative care to palliative care that would help him be as comfortable as possible until he dies was not brought to the table until a family member suggested it.

The Conversation

Atul Gawande, a prominent surgeon and author of many works related to end-of-life care, narrated a PBS documentary based on his best-selling book, *Being Mortal*, which made it painfully clear why it is so hard for these conversations to happen. In the heart-wrenching documentary, he gave us a frank look at the conversations his colleagues had with their dying patients at the Brigham and Women's Hospital in Boston. There was tension in the rooms as the physicians slowly began to articulate the severity of the patients' situations while being careful to maintain the appearance of hopefulness. An oncologist had to tell a 34-year-old new mother with stage four lung cancer and her husband that they had exhausted all treatment options. A woman who had been receiving treatment for cancer for two years began to cry as her physician told her she likely would not be able to leave the hospital. A neuro-oncologist maintained a rigid pose as

she delivered her bad news in pieces, pausing to let her patient with brain cancer and his wife absorb the information. Later in the documentary, this same patient when told once again by his physician to stay positive and to keep hoping said with a look of exhaustion, "I've been doing that for two-and-a-half years. I'm—I'm at the end of my ropes as far as that goes. I can't take any more bad news" (*Being Mortal*).

I doubt that anyone in those rooms wanted to be there in those conversations. We might believe that this is what doctors who care for the dying are trained to do. They should be experts at delivering bad news honestly and lovingly. But they are human too. Having many conversations with dying patients and their families does not make the future conversations any easier. I had the opportunity to sit down with Michael Miller, Jr., the Chief Mission Officer at St. Joseph Mercy Hospital in Ypsilanti, MI to discuss how these end-of-life conversations play out. His role, as he explained it to me, is to ensure that the "hospital's mission, values, and Catholic identity are tangible in the work that [they] do." He deals with clinical ethics as well as community outreach. Mr. Miller is a thoughtful, acutely perceptive man. He saw no need to sugar coat his responses. One of the first things he shared with me is that for a doctor, successfully treating an illness is "like a comedian getting their first taste of applause. That's the food- the energy that gives them life and brings them back to work- gets them out of bed in the morning." His analogy matched what Atul Gawande said in the *Being Mortal* documentary. In the opening lines of the documentary, Gawande said, "Your first fear as a doctor is that you're supposed to be able to fix a problem, and our anxieties include wanting to seem competent, and to us, competent means I can fix this" (*Being Mortal*).

Maybe medical training does not adequately prepare doctors to deal with incurable illnesses and dying patients. The average amount of time spent on death and dying in medical school is seventeen hours (Zamichow 2015) - hardly adequate preparation for the emotionally intense meetings that may lie ahead of them. Atul Gawande affirmed this gap in his education: "I learned about a lot

of things in medical school, but mortality wasn't one of them" (Gawande 2014). There is also the possibility though that no amount of training can prepare someone to handle end-of-life conversations. When a doctor enters a patient's room to discuss the patient's options for their last months or weeks of life, she walks into a room of unknowns. There may be a cluster of nervous family members or friends or there may be no one but the patient. There may be family conflicts causing tension and wildly differing opinions about how the dying person should proceed and which choices should be made. And then there is the basic fact that people deal with bad news differently. Some may sit quickly and absorb the information, some may cry, some may angrily demand that the doctor do something to fix the problem. It is unsurprising that the words, "You're dying," rarely come out of a doctor's mouth. They are far more inclined to give a little bit of bad news- a new lump was found or the patient did not respond to the latest treatment- and then smother it with messages of hope. A "We're going to keep fighting!" or "But there is one more experimental treatment we can try" is easier to say than "There is nothing more I can do." Dr. Gawande, in the documentary, admitted to the husband of the young mother after she passed that he knew the experimental therapy he suggested to the couple to address both the lung cancer and a second cancer of the thyroid was not going to work. "The reason I regret it is because I knew it was a complete lie. I just was wanting something positive to say" (*Being Mortal*).

It was likely for these reasons that my grandpa's doctors, without any dishonest intent, chose to emphasize rehab so that his legs could be strengthened and he could return to his pre-hospitalization level of mobility. What they knew but did not share was that the only rehabilitation centers that would accept an eighty-year-old man in such poor condition were nursing homes without so much as a single rehabilitation room. In fact, almost none of the residents were mobile at all. It was not likely that he would regain any strength in a facility like the ones my parents visited, nor would he be able to be transferred to the U of M hospital and then to his home- the goal all along.

With my grandpa on my mind, I asked Mr. Miller what makes end-of-

life conversations between physician and patient so hard. He looked me in the eyes and responded with the question, "Have you ever told somebody that they are about to die?" If you haven't ever mentally put yourself in that position, consider it now. I imagine sweaty palms and trembling limbs and the expenditure of a lot of willpower just to open the door and enter the room. As Mr. Miller so aptly pointed out, we do not have scripts for death. We just don't know what to say that would be meaningful.

Atul Gawande said "Medicine often offers a deal— We will sacrifice your time now for the sake of possible time later" (*Being Mortal*). This is what medicine did for my grandpa until it was determined that there would be no time later no matter what medicine did for him. This is also what medicine does for many other people with terminal illnesses, both young and old. Dr. Gawande may have, in this line, captured modern medicine's role in a dying person's life. Doctors and patients will put their trust in medicine because it offers hope. Without hope, it is hard to explain why a patient in stage four cancer would choose to continue treatments that make them sick as dogs and that only have a small chance of extending their lives or doing anything beneficial for them at all. These treatments offer the hope of recovery, the hope that this patient will be the one that defies the odds and lives for another fifteen years.

The human tendency to cling to hope may also account in part for the huge overestimation of the time a patient has left to live. The physician likely wants to avoid answering that question at all costs because it is just so sensitive but when they do, they are usually wrong. A study of terminally ill patients found that 63% did not live as long as their doctors predicted they would. Only 20% of the predictions were accurate. Interestingly, if the patient perceived the communication between the doctor and himself to be good, the doctor was more likely to overestimate her patient's life expectancy (Aronczyk 2015). The doctor may be subconsciously influenced by the relationship she has formed with her patient - maybe she wants to believe that he has more time left. Or it may be that the doctor wants to remain as optimistic as possible to keep hope alive. This over-

estimation, though, often makes death even more startling when it comes sooner than expected.

What also makes death startling when it arrives is that many people do not know when they are dying. With today's advanced curative care, it is far from obvious. We are not dying of illnesses that used to, upon diagnosis, mean the end was very near. My grandpa had bladder cancer and lung cancer and while these diseases were terminal, his physicians were managing his conditions and he was living his life as normal with almost no pain. So when he was hospitalized for pneumonia, I did not immediately assume that he was very near death. This lack of understanding of the dying person's condition adds to the stress and confusion of death. A Frontline short film titled, "It's Very Hard to Come to the Realization That You're Dying", showed the conversations between Dr. Zara Cooper, an emergency surgeon with palliative care training and her dying patient and his wife. As the man's wife laid out their plans for the next several months, it was clear that she had no idea that her husband may only have days left to live. Of her first meetings with dying patients in which she lays out the situation, she said, "It's always a surprise" (Frontline 2015).

Death Language

Medicine is very good at what it does but it is limited. Medicine cares for the physical person but more often than not it fails to address the whole person. This is particularly important for a dying patient because there are many things a person needs in terms of care that are not physical. Mr. Miller told me, "A missed opportunity in medicine is to balance caring with curing. We can't cure everybody but we absolutely can care for everybody." What I think is related to medicine's intense focus on curative care for patients with terminal illnesses is the way we speak about death in our culture. When your alternative is "losing the battle to cancer" or "failing to thrive," you too might find yourself "fighting" until the very end. We don't want to give up and we don't want to fail. The way we speak about death though can be very damaging to the peace we seek at the end of our lives.

Words like "losing" and "failing" make death sound like a personal defeat. We applaud people who "fight until the end" as if accepting death would show weakness. We all know that we are going to die so why is failing to survive a failure? In an article published in JAMA, oncologists, Lee M. Ellis and Charles D. Blanke, and Nancy Roach, describe a cancer diagnosis as the beginning of a journey. This journey requires patience and courage but it is not a war. Though a courageous decision to keeping "fighting" and "conquer" the cancer may be morale-boosting, it could ultimately make light of little day to day sufferings, both physically and emotionally, that a person with cancer deals with like nausea, fatigue, loneliness, and pain (Ellis, Blanke, & Roach 2015). It is a complicated journey in many ways and it certainly does not come down to winners and losers.

This aggressive language reenforces a culture resistant to death even at the very end of life. So often the "battle" is fought to the last breath. Within two weeks of dying of cancer, 8% of patients receive chemotherapy treatments. This number jumps to 62% within the last two months of life (Ellis, Blanke, & Roach 2015). How close treatment is to the time of death really does matter. A study by the Dana-Farber Cancer Institute and Weill Cornell Medical College found that among terminal cancer patients with six months or less to live, 80% of patients who chose not to receive more chemotherapy died in the place where they wished but only 68% of those who received additional chemotherapy died where they hoped they would. Those who received this treatment were also much more likely to die in an intensive-care unit or receive cardiopulmonary resuscitation (CPR) or ventilation in the last week of their lives (*Dana-Farber Cancer Institute*). Dr. Alexi Wright, an oncologist at Dana-Farber Cancer Institute and the author of the study, said "We often wait until patients stop chemotherapy before asking them about where and how they want to die". Waiting to have the conversation about a patient's wishes may be a major flaw in end-of-life care as 56% of cancer patients receive chemotherapy in the last month of their lives (*Dana-Farber Cancer Institute*).

The benefits to keeping hope alive for a dying person and her family cannot be overstated but it is also important to be as realistic as possible. The fact

is, when it is a battle we engage in, there will be wounds. End-of-life interventions can temporarily extend life but what many patients and families do not understand is that they can be incredibly traumatic. A misconception of CPR is that it is quick and highly successful at restoring normal heart and respiratory function to the patient. The reality is that when a patient goes into cardiac or respiratory arrest, there is a 5-20% chance of survival even when CPR is performed (Dix 2015). If a decision has not been reached about the interventions a patient wants to receive, CPR will be performed as the default. The patient's chest is forcefully, rhythmically compressed and the lungs are ventilated. Drugs are administered and the chest is shocked to restore normal heart rhythm. Even the best case scenarios in which death is staved off may leave the patient with broken ribs, injured organs, and brain damage. We must remember that just because we have the technology to intervene does not mean that we should. People who undergo CPR are more likely to require artificial ventilation for the remainder of their lives and to die in the ICU (Dix 2015).

It is medicine's responsibility to do everything in its power to ensure a dignified death to all in its care. What Mr. Miller sees in his work are a lot of patients who "keep doing everything and everything and everything until their bodies are just wasted and give out on them."

What We Miss

Addressing serious illness as a battle to be fought and traumatic interventions as logical next steps can be very counterproductive to the goals of the relatively new medical specialty, palliative care. Palliative care was established on the premise that a dying person needs to be cared for holistically- their emotional, spiritual, and physical needs met. This kind of care extends even to meet the needs of family members, close friends, and caregivers.

Mr. Miller explained palliative care to me as a return to the original purpose of hospitals. As hospitals a hundred years ago could do little in the way of curative care, the care they provided was mostly comfort for dying people. Before

antibiotics were developed in the mid-20th century, the cause of death was typically an infectious disease and the treatment was care only with the intent of comforting the dying person (Knight and Von Gunten 2015). Modern hospitals have become places of healing with the intent to solve problems and cure illnesses. Many factors have influenced this change including cultural shifts and the rise in technology. Culturally, we have increasingly become focused on individualism and success. These qualities make it more difficult to accept death when it is near, as death is often seen in part to be a failure of medicine. This belief is bolstered by the technology boom of the last few decades (Knight and Von Gunten 2015). We have come to expect medicine to be prepared to handle our illnesses and in many cases our expectations are met. Because we have this expectation, it can be even harder to accept death when we finally have to. In the transition in the role hospitals play we lost some of the emphasis on caring for those whose needs have surpassed what curative care can offer. This care gap in modern healthcare led to the founding of the first Hospice program in 1967 ("History of Hospice Care"). These programs are now a subset of palliative care but were started before palliative care was recognized as a medical specialty.

Palliative care exists to increase the well-being of those living with terminal illnesses as well as for anyone who has chronic pain. It offers a team approach that may include doctors, nurses, medical aids, social workers, and religious persons to care for the dying person. The team helps the patient and their family understand what they can expect as the illness progresses and develops a plan to manage the patient's pain and keep him as comfortable as possible. Under palliative care, the patient can speak with medical personnel at any time of day and can request that volunteers come to their residence just to sit and talk with them. This kind of care gives the patient a strong understanding of their condition and the choices they have- should they want it- and many times makes the patient more confident in their end-of-life decisions. To qualify for this kind of care, the patient need only request it.

Hospice programs were integrated into existing medical centers in 1975

and are now all over the country. The word "hospice" originally referred to a place to stop on a journey and rest ("History of Hospice Care"). Hospice care is compassionate care for those at the end of their journeys on earth. The key factor that makes Hospice distinct from the rest of palliative care is that to qualify, two doctors must sign off saying that the patient has six months or less to live and the patient must agree not to pursue curative care. My grandpa was receiving Hospice care for only the last five days of his life due in large part to misunderstandings about what Hospice does and who it is for. In his eyes and those of others in my family, Hospice and palliative care were only for people standing at Death's door. Though 44.6% of people who died in 2011 were under Hospice care, most of them were in Hospice for less than a month with 35% under Hospice care for less than a week ("Hospice Care in America"). I asked Mr. Miller if Hospice and palliative care are well understood. To my clearly absurd question, he exclaimed, "Oh gosh no!"

My conversations with Dr. Eric Goss, an internist and palliative specialist in Lexington, Kentucky, led to some interesting revelations about modern end-of-life care. I asked Dr. Goss what a doctor's responsibility is to his dying patient and what patients should expect from their doctors. "They should expect honesty-honesty delivered in a compassionate way" he said. "They should expect autonomy if they want it to make their own decisions." As we talked it became apparent that honesty, as vital as it is, is not what patients are getting. He went on to say that when bad news is sugar coated, the patient will "hear the sugar and throw the sour away." If he tells a patient that the latest round of chemotherapy did not change the size of the tumor and, in fact, the tumor has grown BUT the patient's blood pressure looks good and their breathing is good, and he is optimistic that further treatment will be effective, the patient might be left with the impression that things are looking up when this is not the reality. Doctors, he said, "are very good at spinning." They say things like, "Getting a kidney is *possible*. We're going to *try*. We *hope*…" Though speaking in possibilities makes these conversations more pleasant for both physician and patient, it doesn't help patients come to terms

with death in the long run.

Dr. Goss's approach is consistent with his personality: be brutally (but compassionately) honest. When he enters a room to deliver bad news to a family, he lays out the situation then asks the patient what her understanding of her condition is and what she understands about what can be done. He follows this closely by asking the patient what her goals are- where she would like to be physically, emotionally, and spiritually. As soon as the prognosis is out of his mouth, he is handing power back to the patient. This is the foundation of palliative care. We all want to have control over the trajectory of our lives. A person given a terminal diagnosis has seen her choices drastically reduced. Medicine does people a great disservice if it does not attempt to give that power- that autonomy in decision making- back to the patient.

Autonomy is not as simple as asking the patient which treatment he would like to pursue. It requires a great deal of communication among the patient's doctors so that the patient knows all of his needs are taken care of. Dr. Goss gave the example of an 80-year-old man with a chronic lung disease who was recovering from a stroke. He is seeing a pulmonologist, a neurologist, and his primary care physician. At an appointment with his primary care physician, he asks about the treatments he is receiving for his lungs and the aftermath of his stroke. Too often, Dr. Goss said, the primary care physician will direct the patient to his sub-specialists for answers. This, he said, is unacceptable. He asserted that the primary care doctor needs to be the gatekeeper- the one who knows all the health concerns the patient has and has complete knowledge of all the treatments the patient is receiving and why. Without a healthcare provider that sees the whole picture, the patient is left in the dark. This is not patient autonomy. Dr. Goss explained that people used to go to their primary care doctors when they were sick- there all health needs could be addressed. Now the patient is told to go to an urgent care clinic. When patients are sent in many different directions without a care provider who understands the big picture of their health, he said, "That's not holistic care, that's fragmented care." When this fragmented care is characteristic

of a dying patient's experience with their doctors, we miss an opportunity to make death an emotionally healing experience for patients and families.

Hard Choices

Death forces us to make hard choices. We might find ourselves in the position of deciding with a loved one whether to try an experimental treatment or to go home with Hospice care. Someday we might make that decision for ourselves. In my grandpa's case, the choice was to transport him to Michigan or to transfer him to a rehabilitation facility in Orlando. The choice was hard for the same reason that all hard choices are hard- both choices had benefits and consequences and there was no way to know for sure what the outcome of either choice would be. If he were transported to a hospital in Michigan he would be around his family and would be cared for by familiar doctors. The possibility would also be there to get him back in his home where he would be most comfortable and where he wished to die. But his condition was so severe that there was a chance the trip would do a lot of damage. The transportation might shorten his life. It was a question of where his quality of life would be best and no one had the answer.

Ruth Chang, a philosopher who studies hard choices, offers insight into why hard choices are hard and what they say about the human condition in a TEDTalk titled "How to Make Hard Choices." She claims that getting to the root of how we make these choices is important because "understanding hard choices uncovers a hidden power each of us possesses." When we have two (or more) choices, she explained, and neither is better than the other overall, improving one does not necessarily make it the better choice, and the choices are similar enough to be compared, then we have a hard choice. Chang emphasized that hard choices are hard, not because we are ignorant or not fully informed, but because one choice is not better than the other. It is not that one choice is truly better than the other but we just don't see it - the choices have equal value though they are different kinds of value (*How to Make Hard Choices*).

Her conclusion is this: "Each of us has the power to create reasons." If

these choices were easy, that is, one choice was clearly better than the other, we would choose the logical choice every time- that's part of being a rational person. "It's here in the space of hard choices that we get to exercise our normative power, the power to create reasons for yourself." When we make hard choices, we support them by reasons that we create, rather than reasons given to us (*How to Make Hard Choices*).

Making hard choices is a beautiful expression of our humanity. It is how we shape how our lives will look and especially for dying patients, it is a way to exercise autonomy. Medicine, and especially palliative care, exists to serve the patient's health needs and to allow them the space to develop their own goals and wishes. We need not dread hard choices at the end of life. It is those choices, not the illness, that set the course for our lives.

Making Peace with the End

Mr. Miller, when addressing what a patient needs to feel at peace in accepting death, said, "We're scared. We're scared by death. And how often do we ask our patients what scares them?" Maybe the patient is worried about what's going on at home or at work or maybe they want to reconnect with someone before they die. The real challenge, he said, is "knowing the patient well enough to know how they can add value." The caregiver is often afraid to dig into that relationship with the patient because we are too aware of our limitations." What if understanding a patient's fears doesn't get us any closer to easing them? What if we can't be what the patient needs? I firmly believe in what Mr. Miller offered as the first step in making death more peaceful: normalizing the conversation. When the patient is afraid and the caregivers are afraid and we're not talking about it, we have a problem. If we can reduce the fear in having conversations about death, we can start to change the culture.

Dr. Goss gave me another expectation patients can reasonably have of their doctors. They can expect to have a goals-of-care discussion even when they're healthy. This responsibility, he said, falls to the primary care physician who should

initiate the conversation about creating an advanced directive, a document detailing the patient's end-of-life wishes for care. He believes the document should then be revisited each year and altered if necessary. This means that an end-of-life discussion between patient and physician would happen every year- a completely foreign concept for most of us. Though this may soon change, currently, as Mr. Miller said, "it's rare for people to come into the hospital knowing what they want at the end of life. It's rare that people are ready to talk about it."

I wasn't with my grandpa in the last ten days of his life. I can say with some certainly though that he was ready when God called him home. In his last days, he was able to go home. He had his family with him. His parish priest and close friend visited him and brought him communion. He had communicated his wishes well with his doctors and was spending a lot of time in prayer. It was these personal connections that I think really made him feel at peace. It is important that physicians, caregivers, and family members make the switch from fighting for life to making peace with the end. Once this transition was made on my grandpa's journey, we could focus solely on lovingly caring for him and celebrating how incredibly blessed we were to have had the chance to love him.

Atul Gawande, in his closing remarks in the documentary, *Being Mortal*, posed the question, "How is death ever at all acceptable? How is it ever anything except this awful, terrible thing?" (*Being Mortal*). I found a peace with my grandpa's death in knowing he was surrounded by love- a love that reassured him that everything would be okay for those he was leaving behind and allowed him to turn toward his creator with his whole being and welcome the next stage.

References

Aronczyk, Amanda. "Cancer Patients And Doctors Struggle to Predict Survival." *Shots: Health News for NPR*. 10 Feb. 2015. Web.

Being Mortal. Frontline, 2015. Film.

Dix, Ann. "Discussing CPR Near the End of Life." *Nursing Times*. 21 Jan. 2015. Web.

Ellis, Lee M., Charles D. Blanke, and Nancy Roach. "Losing "Losing the Battle with Cancer"" *JAMA Oncology* 1.1 (2015).

Goss, Eric. Personal Interview. 5 April 2015.

"History of Hospice Care." *National Hospice and Palliative Care Organization*. Web. 13 Mar. 2015.

"Hospice Care in America." *National Hospice and Palliative Care Organization*, 1 Jan. 2012. Web. 9 Apr. 2015.

How to Make Hard Choices. 2014. Film.

"It's Very Hard to Come to the Realization That You're Dying". Frontline, 2015. Film.

Knight, Sara J., and Charles Von Gunten. "End of Life in America." *EndLink: Resource for End of Life Care Education*. Robert H. Lurie Comprehensive Cancer Center of Northwestern University. Web. 14 Mar. 2015.

Miller, Jr., Michael. Personal Interview. 20 March 2015.

Spector, Rosanne. "Paul Kalanithi, Writer and Neurosurgeon, Dies at 37." *Stanford Medicine News Center* 11 Mar. 2015.

"Study Shows More Hospital Deaths and Invasive Care for Dying Cancer Patients Who Receive Chemotherapy." *Dana-Farber Cancer Institute*. 4 Mar. 2014. Web.

Zamichow, Nora. "The Two Words Most Doctors Avoid Saying: You're Dying." *Los Angelos Times* 13 Feb. 2015.

Freeway in the Garden

Wake Coulter

From ARTDES 399, Writing in Art & Design
nominated by Jennifer Metsker

Wake's essay is not only highly original in its line of questioning and diverse in its research (which is valued in Art and Design), it is riveting to read. Here are some comments I wrote on his final essay that capture how I felt upon completing it: "This essay reads like a published article in an academic art/design journal, only it's one of the rare ones I enjoy reading that stands out from the dry, overly abstract writing that I often come across. If I had read this in a journal, I would select it as a reading for my class. The research is relevant, thoughtful, and well integrated—you truly honor these sources by describing them so well, highlighting their relevance, and synthesizing them to create an argument that is truly your own. The language you use is not only powerful and well-chosen, it's rhythmic and poetic without neglecting academic expectations." As Wake is highly devoted to his work as a designer and artist, it is so impressive to me that he took the time to develop the craft of writing beyond just making a clear argument.

Jennifer Metsker

The Freeway in the Garden

Interchanges of black and gray lines connect, overlap, and go their separate ways. I am leaning against the window of the bus that is taking me home, back to school after another regretfully short Thanksgiving break. As I stare out into the dark, we pass under two bridges and for an instant, I am in a silent garden, a symmetrical, empty ruin, free of the din of traffic passing by. I crane my head back and wish I could stop the bus, ask the driver to pull over so I could capture this strange fleeting moment. Moments like these, when you make the wrong exit and end up four levels above your intended route, looking down to see a beautiful tangle of interchanges, overpasses, and cement arcs; when you notice nothing but concrete surrounds you, barriers on either side and blacktop below; when the road ahead of you stretches up a hill, and a lack of perspective creates the illusion that the cars in the distance are driving straight into the sky; moments like these usually disappear, gone from your memory as soon after they fade from your sight.

I want to capture these moments, to somehow recreate the strange security and insecurity of being enveloped in a manmade landscape, the designed yet unplanned compositions of the built environment, and the ephemerality of freeways and structures that reduce space into time. However, I am concerned by my passive acceptance of these structures as established elements of the environment. The social critic Joseph Kuenstler described the state of architecture built in the last fifty years as "depressing, brutal, unhealthy, and spiritually degrading"[1]. Regardless of their ephemeral moments of beauty, freeways are undeniably responsible for transforming rich habitats, landscapes, and communities into homogeneous wastelands.

As an artist, graphic designer, and illustrator, I have the power to shape people's impressions of the world around them. Is it my responsibility to condemn

[1] Kunstler, James Howard. The Geography of Nowhere: The Rise and Decline of America's Man-made Landscape. New York: Simon & Schuster, 1993. 10. Print.

these manmade landscapes for fueling mass environmental and societal decay, or could I use my artistic abilities to depict the strange beauty I find in these cathedrals of concrete? How have artists of the past expressed their frustration with environmental contradictions, creating works that engage with the built environment without passively aestheticizing it? What is the role of the artist in the industrially produced landscape?

Modernity and the Landscape

Lewis Mumford, a noted urbanist, once declared, "Industrialism, the main creative force of the 19th century, produced the most degraded human environment the world had yet seen."[2] For the last two generations, excessive industry, private transportation, and urban expansion have been recognized as prime factors in widespread environmental and social decline. But during the 19th century, as those creative forces were just emerging, awareness of the long-term dangers of industrialization were still masked by the sheen of the new. Engineers, scientists, scholars, and artists were greatly enthusiastic for progress, placing the authority of science and reason above all other virtues. One of the first artists to welcome the burgeoning industrial landscape was Claude Monet.

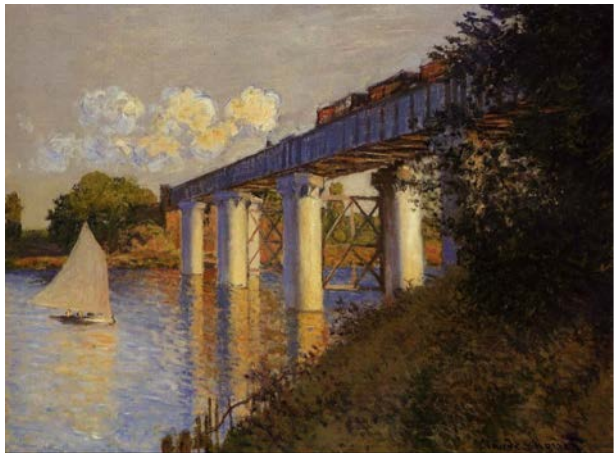

Figure 1 – Claude Monet, *The Railway Bridge at Argenteuil* (1873)

[2] Kunstler, James Howard. The Geography of Nowhere: The Rise and Decline of America's Man-made Landscape. New York: Simon & Schuster, 1993. 10. Print.

Monet, best known for his impressionistic paintings of water lilies and serene ponds, was also a dedicated recorder of European industrialization. He entered an obsession with locomotives in 1870 with *A Train in the Countryside*; this interest continuing into 1877 with his series *La Gare St Lazare*, which meticulously chronicled an afternoon at the first major railway station in Paris. His 1899-1904 series at the Charing Cross Bridge in London depicted hazy, dream-like landscapes. Yet when it came to seeing beyond the dazzling visual experience of trains and their tracks, Monet was just as shortsighted as the rest of his generation. According to the contemporary art historian Francis Frascina, "Monet mostly took the option of insisting on an idyllic petite ville, of closing off the contradictory reality of contemporary ephemeral life in the process of modernization."[3] Both his nature scenes and industrial spaces were painted with the same loving brushstroke, vivid hues, and impressionistic lighting effects. In *The Railway Bridge at Argenteuil* (1873), the smoke emitted from a passing train appears to simply fill the sky with more fluffy clouds, seamlessly merging with its natural environment (fig. 1). Monet failed to perceive an opposition between industrial and organic environments; he was equally interested in the aesthetics of both and genuinely believed they could live in harmony.

But even at the inception of this new "creative force", certain artists expressed conflicting attitudes towards the industrial landscape. Edouard Manet was warier of modernity's contradictory reality. In 1874, he painted *Argenteuil* (fig 2), which initially appears to be a routine portrait of two middle class Parisians enjoying a Sunday out on the river Seine. However, Manet's image had darker implications. The two primary figures display an awkward transactionary politeness towards each other; the opaque river behind them runs indigo with waste washed down from the dye factory upstream, and a smokestack rises out of the distant background, coughing a black cloud into the afternoon sky. Most of the paintings Manet made of Argenteuil were equally contradictory, grafting

[3] Frascina, Francis. "Modernization: Spectacle and Irony." Modernity and Modernism: French Painting in the Nineteenth Century. New Haven: Yale UP, in Association with the Open U, 1993. 126. Print.

Figure 2 – Manet, *Argenteuil* (1794)

dirty smokestacks onto synthetically idyllic landscapes. According to Frascina's description of 1870's *Argenteuil*, Manet's depictions were far closer to reality than those of his contemporaries.

> To the tannery, tallow shop and distilleries there were added a factory producing phosphate extracts, a dye factory, starch works, a machine-made lace premises, a gas-works, a large saw-mill and construction operation, a chemical plant...To the south, Bezons boasted a rubber factory, which by 1869 had killed off the local fish with its dumped waste. Not surprisingly, the municipal and departmental authorities keen to encourage capital investment ignored residents objections to all these transformations and approved factory construction even in picturesque areas of the town.[4]

[4] Frascina, Francis. "Modernization: Spectacle and Irony." Modernity and Modernism: French Painting in the Nineteenth Century. New Haven: Yale UP, in Association with the Open U, 1993. 118. Print.

Eduoard Manet was a master of revealing the artificiality in modern life, so it was no surprise that he was one of the first to recognize the problematic elements inherent in the "creative force" of industrialization. Monet, on the other hand, focused only on the marvelous visual impressions of these new additions, glorifying their monumentality as a hopeful symbol of progress and change. But as Monet's beloved landscapes began to disappear, replaced by dye factories and stinking rivers, Manet explored deeper, depicting the environmental and psychological ramifications that came along with these new structures. Manet's unsettling vision of industrialization was subtle enough not to enrage his fellow modernists, but evident enough to be noticed by his audience and contemporary art historians. He achieved a nuanced balance between revulsion and intrigue, neither fully condemning nor celebrating the industrial landscape.

Yet in the coming century of blind progress, all nuances would be lost in a manic scramble to rapidly industrialize and create a brave new world of automation, efficiency, centralization, mass transportation, and a modern urban experience. The next hundred years would be seen as if through the eyes Monet; a pure celebration of modernity.

The Postwar Landscape

In the decades that followed, the ever-shifting dream of the Modernist City drove much industrial progress and the environmental sacrifices that came along with it. But according to UCLA professor of urban planning Eric Avila, the dream was never fully realized. In *The Folklore of the Freeway: Race and Revolt in the Modernist City*, he recounts how the well-planned utopias of Baron Haussmann, Otto Wagner, and Daniel Burnham lost priority after the deafening destruction of World War II. Gone were the moral overtones and idealism of the Progressive Era, all that remained for urban planners was the "enthronement of the machine" and the "authority of reason and science"[5]. During the years of

[5] Avila, Eric. "The Master's Plan: The Rise and Fall of the American City." *The Folklore of the Freeway: Race and Revolt in the Modernist City*. N.p.: n.p., 2004. 18. Print.

postwar reconstruction, new building projects tended to be planned in strictly technical and economic terms. What resulted were characteristically bland concrete public buildings, identical Levittown-esque suburban developments, and the Interstate Highway Act of 1956. This act called for a national system of roads to be built between and within major cities. For the new generation of urban planners, "their single mission was to build freeways to serve traffic; to let other considerations influence their work was anathema to their profession"[6]. Not only did this narrow focus eliminate the niceties of the Garden City movement and the contrived beauty of urban parkways; the new straight lines of the rational highway system bulldozed their way through the urban fabric, destroying thriving minority communities, beloved historical landmarks, and precious shorelines. Avila stresses that these new highways replaced "bustling pedestrian life with dead and useless space", and "presided over the birth of the modern ghetto"[7]. Performance art by Bonnie Shirk, paintings by Richard Diebenkorn, and photographs by Ed Ruscha expressed well-founded concerns that this destruction would smother the life out of American cities and beyond. However, one particular artistic movement marked the turning point in attitudes towards infrastructure from hope to hopelessness.

Figure 3 – Robert Adams, *Mobile Homes, Jefferson County Colorado* (1973)

[6] Avila, 20
[7] Avila, 19

In 1975, William Jenkins curated an exhibit in Rochester, New York entitled *The New Topographics*. The exhibit featured 168 images of the American landscape, as photographed by Robert Adams, Lewis Baltz, Bernd and Hilla Becher, Joe Deal, Frank Gohlke, Nicholas Nixon, John Schott, Henry Wessel Jr., and Stephen Shore.[8] Despite the label of landscape photography, nowhere to be found were images of the timeless, untamed wilderness one might expect in a profession heavily influenced by the likes of Ansel Adams, Paul Caponigro, and Edward Weston. Instead, these photographs captured the mundane built environments of gas stations, subdevelopment tract housing, industrial parks, and freeways.

Figure 4 - Lewis Baltz, *The New Industrial Parks near Irvine, Element No. 5*, California, 1974

In the exhibit catalog, William Jenkins emphasized that the exhibit was not intended to judge the landscapes it depicted, but to "postulate, at least for the time being, what it means to make a documentary photograph".[9] The featured photographers echoed this notion of contemporary objectivity. Joe Deal, whose photographs consisted primarily of suburban developments in

[8] Adams, Robert, and William Jenkins. New Topographics: Photographs of a Man-altered Landscape. Rochester, NY: International Museum of Photography at George Eastman House, 1975. Print.
[9] Adams, 6

Albuquerque, claimed "the most extraordinary images might be the most prosaic, with a minimum interference (i.e. personal preference, moral judgment) by the photographer".[10] Nicholas Nixon, a photographer of gloomy urban skylines in Boston and Cambridge, declared that the best photographs are both "transparent" and "in the deepest sense, are of the world".[11]

What, then, did this exhibit represent, if the only photographs "of the world" depicted ravaged coal factories, barren suburbs, soulless office parks, and empty freeways? If these photographers truly believed that their images captured objective visions of the world (regardless of their subjective locations and content), then it appeared that with the splintering growth of the industrial landscape after the Interstate Highway Act of 1956, any landscape untouched by man was either too esoteric to photograph or was simply ceasing to exist.

Contemporary perspectives

Figure 5 – Wayne Thiebaud, *Coloma Ridge* (1968)

[10] Adams, 7
[11] Adams, 7

The influence of the New Topographics movement was not limited to photography. After postwar infrastructure became a viable subject matter for artists, countless sculptors, performance artists, and painters began to interpret it from their own vantage points. One of the earliest artists to incorporate this subject matter into painting was Wayne Thiebaud. The California icon's 1971-1984 series of San Francisco's freeways walked the line between realism and abstraction.[12]

Until the 1970's, Thiebaud was primarily known for his still lifes of omnipresent foods - cafeteria pastries, truck stop meals, and ice cream cones - his repetitious subject matter earning him the contested label of a Pop Artist. His lesser-known works were landscapes, in which he enlarged, bloated, and warped natural formations into almost unrecognizable forms. In *Coloma Ridge* (1968), he depicts a plunging cliff so physically distorted that Dr. Seuss would have felt at home on its peak (fig. 5). Until Thiebaud moved to San Francisco in 1973, two years before the *New Topographics* exhibit, his landscapes were free of human structures.[13]

Figure 6 – Wayne Thiebaud, *24th Street Intersection* (1977)

[12] Thiebaud, Paul. Wayne Thiebaud: Landscapes. San Francisco: Campbell-Thiebaud Gallery, 1997. Web.
[13] Curtis, Cathy. "ART REVIEW Thiebaud: Changer of the Mundane into the Surreal." Los Angeles Times (pre-1997 Fulltext): 51A. Oct 15 1989. ProQuest. Web. 8 Dec. 2015 .

All that changed in his 1977 piece, *24th Street Intersection*, which shifted his landscapes into the urban space (fig 6). "I was fascinated by those plunging streets," he explained of his new home, and *24th Street Intersection* depicts the meeting of two such streets, tilted into an impossibly precipitous angle by his characteristic treatment of topography.[14] Blending the perspective techniques of Asian painting and the subject matter of The New Topographics, Thiebaud created a warped landscape that began to address the scalar distortions presented by the built environment. In a 1987 interview with Andree Marechal-Workman, he justified his strange perception of these spaces:

> As I drew those big apartment houses... I wondered if the earth was strong enough to support them. So when I studied the formation of the earth, my impulse was to render it as an organic structure that felt strong enough and gestural enough to push against the power of those big buildings. This is also true of any landscape with trees, roads, or livestock--I try to infuse my paintings with as much of the character of those natural forces as I can.[15]

Figure 7 – Wayne Thiebaud, *Urban Freeways*, (1979-80)

[14] Rubin, Susan Goldman. Delicious: The Life & Art of Wayne Thiebaud. San Francisco: Chronicle, 2007. Print.
[15] Maréchal-Workman, Andrée. "Beyond the Cityscapes." Smithsonian Studies in American Art, Vol. 1, No. 2 (Autumn, 1987), pp. 34-51

Revealing a deep interest in natural forms, Thiebaud's paintings of the built environment emphasized the intertwined relationship between manmade and organic structures. This style continued into paintings of freeways, of which he created many, including *Freeways* (1978), *Urban Freeways* (1979-80), *San Francisco Freeway* (1980-81), and *Freeway Traffic* (1983). In *Urban Freeways*, (1979-80), Thiebaud depicted a crisscrossing tangle of highways snaking around factories, condominiums, and palm trees (fig. 7). Devoid of a horizon line, the arabesque, M.C. Escher-like structures fill the entire pictorial space, refusing to relieve the viewer with a glimpse of sky. Yet these structures are not distinctly separate from the grass below them, nor do they seem to present an imposition on the space. They become part of the environment, enmeshing with the existing topography in what almost seems to be a mutual relationship. Does Thiebaud accept these highway networks as a part of life, perceiving them equally as fundamental to the earth as the rivers that flow beneath them? Although Thiebaud has classified himself as a realist, denying the two-faced label of Pop Artist, these pictures walk the line between a critique of these environments and an embrace of their complexities.

Figure 8 – Hans-Christian Schink, A38 – Brücke Schkortleben (2)

Two decades after Wayne Thiebaud embraced the complex interrelation between the natural and built environment, Leipzig photographer Hans-Christian Schink highlighted their imposition on one another. In the tradition of the New Topographers, Schink places manmade structures at the forefront of his work. However, he denies any influence from the movement, acknowledging it as more of an "affirmation than an inspiration"[16]. In his 1993-2003 series *Traffic Projects*, he photographed newly built East German Highways constructed under the Verkehrsprojekte Deutsche Einheit (Traffic Projects German Unity), one of the many political efforts to reunify Germany. Like many of the original New Topographics artists, he chose to retain certain elements of natural landscapes in his photographs, whether they were a babbling brook at the foot of two enormous concrete pillars, a misty mountain range obscured by a massive cement bridge, or a lone swan floating in a pond below an overbearing freeway. Yet as Kai Uwe Schierz notes in an essay on Schink, a fundamental difference in the built environments he chooses to photograph is that "these edifices explode human dimensions."[17] Freeways, unlike the localized subjects of the New Topographics, are megastructures that span regions, countries, and continents - built environments on a previously unseen scale.

Figure 9 – Hans-Christian Schink, A4, Bei Chemnitz

[16] Arena, Gianpaolo. "From Traffic Projects to 1h." Landscape Stories. N.p., n.d. Web. 12 Dec. 2015.
[17] Schink, Hans-Christian, and Schierz, Kai Uwe. Hans-Christian Schink - LA:. Salzburg: Fotohof Edition, 2004. Print. 57

Each photograph in *Traffic Projects* frames the composition in a way that emphasizes the enormous monumentality of the freeways, and pathetically minimizes the distant, obstructed landscapes they lie within. The structures depicted by Schink are not merely the focal points of his photographs, set within their expansive environments, but they become environments, dwarfing the nature around them. Manet may have visualized the imposition of industrialism on nature by placing it into a recognizable landscape, but Schink places the landscape within the frames of the megastructures. Now, nature is the outsider, the imposing force standing in the way of industry. By reversing notions of containment, Schink emphasizes the distortion of scale produced by built environments and the distortion of perception that comes along with them.

Discussion

We now live in a world where the natural landscape is a distant fantasy for many, and the edifices of concrete that make up urban spaces have penetrated the shrinking countryside. If generations grow up only knowing a world dominated by these structures, will they become perceived as natural? What constitutes natural when this reality is the only one we have ever known? Artists struggling with these questions could choose to evoke pastoral fantasies, or exaggerate the overgrowth of industry, but the ones that I find most effective take a far subtler approach. Manet showed the altered environment with quiet, disturbing shifts in expression, hue, and scenery. Robert Adams, part of the *New Topographics* exhibit, photographed freshly constructed suburban developments from familiar vantage points, but drained them of all color, movement, and life. (fig. 3). Thiebaud exaggerated the outlandish scale and entanglement of these structures, but only to remind us of how entangled their reality actually is. And Schink's carefully balanced compositions are both alien and familiar - we have all seen freeways from the angles he composes, but only in passing, for a brief moment, before we have time to process their strange immensity. Far from conjuring up urban dystopias, fantasy landscapes, or didactic arguments to alert humanity of the unstoppable scourge of

industry, the most moving environmental pieces are the most familiar. They are hardly there, and without a frame they might slip into the cracks of everyday life. This is where their power lies. The most important environmental art makes the invisible visible.

From Manet to Thiebaud, artists depicting the industrially produced landscape have manifested existing mental conceptions of these structures, while simultaneously creating new conceptions. As their visual strategies seep into our unconscious, we begin to develop a collective framework in which we view these edifices, one laced with the same "delightful horror"[18] the artists felt when they depicted them. They deliberately craft atmospheres, moods, and voices that haunt us. These images have not sparked an eco-revolution, nor have they changed the world. But they can change our perception of it. They attempt to unsettle people, and cause them to question their unquestioning acceptance of skyscrapers, suburbs, and freeways as fundamental elements of the human environment.

Conclusion

The environmentalist Paul Shepard claimed "knowing who are you are is impossible without knowing where you are".[19] When I passed those two bridges, that silent garden, I had no idea where I was, and I will probably never go there again. The massive scale of freeways allows humans to travel immeasurable distances in no time at all, while virtually erasing the environments in between. Freeways dominate the landscape, but they hardly feel real. We let them pass us by, only pausing to examine their physicality if we have to. Structures of unknown place connect cities across the planet. As mass transportation becomes more accessible, even our homes become ephemeral, preventing us from growing our roots too deep. The tethers of place are disintegrating, and the built environment is becoming part of the natural landscape - a vast unknown that we experience every day. This problem is both a physical one and a matter of perception. Art has the power to change perceptions, to reveal and create truths. Before we can know where we are, we have to realize that we are lost.

[19] Shepard, Paul. *Traces of an Omnivore.* Washington, D.C.: Island Shearwater, 1996. 32. Print.