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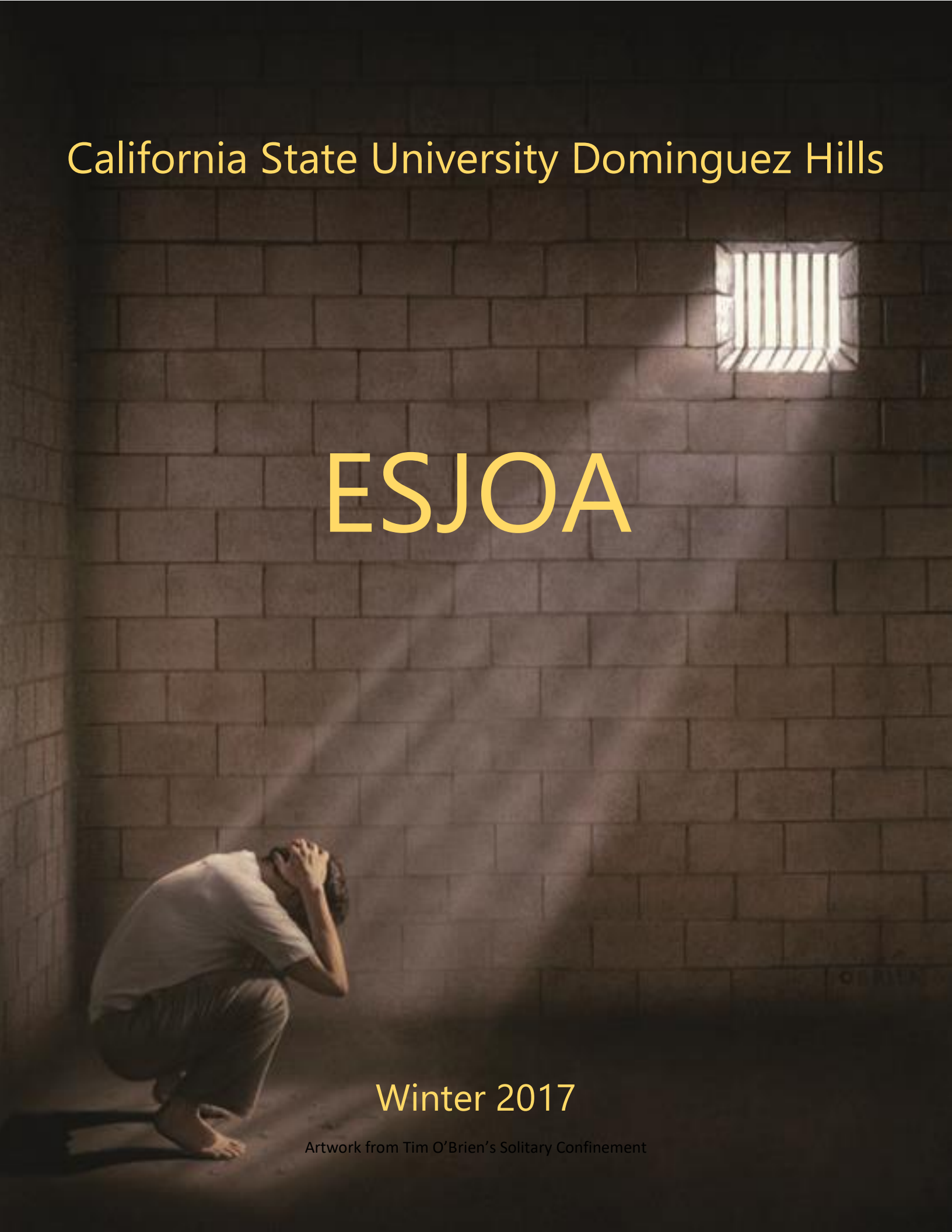

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Artwork from Tim O'Brien's Solitary Confinement

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Locked Away: Imprisonment and the Dysfunctional Cultural Paradigms of Correctional Policy

By: Lawrence J. Ramirez

Introduction

Correctional policy has many functions. First, there are punitive results, punishing convicts for illegal actions. Then, there are deterrent effects, providing a disincentive to prospective criminals thinking of breaking the law. Most importantly, “correctional” policy attempts to rehabilitate criminals, so that they will not engage in crime when they are returned to society. Yet, the actual experience of imprisonment undercuts this last goal. Because of the use of isolating measures, such as solitary confinement, inmates become alienated from any social connections. Such inmates are rendered unfit for returning back into society. Moreover, this problem is compounded by two additional factors, the use of imprisonment for prison population control, specifically as a mental care facility of last resort, and the economic incentives that lead to profit-oriented prisons, both in the private sector and state-based, which engage in human “warehousing.” Because the United States leads the world in the amount of people incarcerated, it is an important topic to examine through the lens of applied anthropology, looking at the underlying cultural paradigms that have led to this situation, and to use such insights to correct dysfunctional and incongruous correctional policies.

Therefore, this paper reviews and critiques correctional practice as it currently exists within the United States. This analysis focuses specifically on the isolation of inmates through policies of solitary confinement within the intensely restrictive context of a Supermax prison. In this examination, the cultural underpinnings of such practices, such as the entombment/rebirth paradigm of redemption, is explored. Hence, the inmates and officers who experience the policies in action are the specific subjects of this analysis. Following the ethnographic data from Lorna A. Rhodes' monograph, *Total Confinement: Madness and Reason in the Maximum Security Prison* (2004), this paper critiques the misapplication of intensive isolation, as exemplified in the controlling of problematic populations, such as those prisoners with psychological problems, or in creating higher “value” per resident inmate so as to increase economic gain. Using the excuse of needing to “control” problematic prisoners, extreme isolation practices undermine the premise of rehabilitation, leading to anti-social consequences when the incarcerated population is eventually released into the broader society.

Methodology

The primary methodology which this paper uses is a literature review, examining the problem from multiple vantage points. As Janine R. Wedel writes, “Anthropologists can explain how taken-for-granted assumptions channel policy debates in certain directions, inform the dominant ways policy problems are identified, enable particular classification of target groups, and legitimize certain policy solutions while marginalizing others” (2005, 34). Thus, the historical intentions behind various correctional practices, such as solitary confinement

and the use of private prisons to offset state expenditures, are explored. Moreover, current cultural trends, such a the “tough on crime” paradigm, have also shaped the reality of correctional policy. Both primary and secondary sources give insight to the cultural presumptions that come to form contemporary correctional practice. These cultural paradigms of corrections can be compared with those of other cultures, such as in the Scandinavian countries. Therefore, this paper reviews a variety of sources, from those as old as Enlightenment era philosophical writings on correctional reforms to those as recent as contemporary critical studies on the profit-oriented “correctional-industrial” prisons.

Another methodological path of exploration involves looking at media criticism of popular culture depictions of imprisonment and inmates in television, cinema, and fiction. These images, which are fabricated for mass consumption, can be contrasted with images created for critical sociological review. So, imagery and concepts from entertainment sources, like television shows or cinematic features, can be contrasted with works like Michael Jacobson-Hardy's critical photographic collection, *Behind the Razor Wire: Portrait of a Contemporary American Prison System* (1999). The purpose for this media criticism is to see how such imagery and narratives reify historical and political concepts, creating a cultural consensus that supports contemporary correctional practice. Additionally, documentary features are examined both as critical visual texts themselves and also as cultural “filmic” products, wherein aesthetic modes of communication are given significant attention.

Case Study

Focusing on the correctional experience from the micro-level, it is important to explore ethnographic qualitative data gathered from the people who live within the system itself, both the inmates and the correctional staff. In this regard, I am using *Total Confinement: Madness and Reason in the Maximum Security Prison* (2004) by Lorna A. Rhodes to provide the basic ethnographic evidence. This monograph is the result of ten years of ethnographic study, from 1993 to 2002, in which Rhodes interviewed the various “stakeholders” within supermax prisons that were associated with the Washington State Department of Corrections. Such stakeholders include the inmates, the guards, prison support staff, such as psychological consultants, supervisors, and the policy-makers. By looking at the experience of intensive isolation in correctional practice through the lens of multiple perspectives, from the bottom to the top, Rhodes offers a powerful view of how the lived experience of confinement is shaped and performed.

In the first part of this monograph, Rhodes explores questions of individualism and identity, looking at how choices are made within the context of a highly controlled environment. This includes both information derived from interviews and a form of “transect walk” approach, looking at the structure factors of the physical environment, like the prison architectural space or the systems of communication and knowledge transference used within the space. For example, Rhodes describes a isolation cell, writing, “Inside the cells, concrete walls are painted a dull gray and contain nothing but a built-in bed and desk and a metal combination sink and toilet. A light fixture high on the wall is covered with tamper-proof clear plastic and left partially on twenty-four hours a day” (2004, 30). Regarding communications, Rhodes writes, “Though prisoners in control units are in solitary

cells and cannot see each other, they can talk by shouting back and forth to their neighbors or across tiers. Some of these conversations are about everyday events (the television news, for instance) or express anger toward the prison system, officers, or other inmates" (2004, 33-34). Thus, Rhodes explores the experience of controlled space and communication within it.

This exploration of the environment is further supported by Jacobson-Hardy's *Behind the Razor Wire : Portrait of a Contemporary American Prison System* (1999) visual documentation of correctional facilities. This work is about revealing, through photography, the "forgotten" people locked away in correctional institutions. The photographs explore the spaces within prisons, from the wide barracks within modular prison units to caged "kennels" where inmates in extreme isolation may exercise alone for one hour a day. Regarding time spent in the kennels, Jacobson-Hardy writes, "The men are frequently handcuffed during their exercise period" (1999, 97). There are also photographs of the correctional residents, both inmates and officers. Like Rhodes, Jacobson-Hardy is attempting to convey visually the people and space of the carceral environment. Both the written and visual ethnography work together to convey the lived experience of the inmates.

By looking at the interior experience and the immediate exterior environment, Rhodes gives a strong picture of the lived experience of the inmates. In support of this analysis, one can look at these findings from a phenomenological perspective. This is what Lisa Guenther does in *Solitary Confinement: Social Death and Its Afterlives* (2013) when she examines the history of incarceration in the U.S. Through the lens of phenomenological philosophers, such as Husserl, Heidegger, and Merleau-Ponty, she explores the ethics and ramifications of correctional policies, like solitary confinement. In this regard, Guenther writes, "On the other hand, a meaningful sense of living embodiment has for the most part drained out of their lives; they've become unhinged from the world, confined to a space in which all they can do is turn around or pace back and forth, blocked from an open-ended perception of the world as a space of mutual belonging and interaction with others" (2013, 165). Thus, Guenther's main point is that it results in a form of social death which dehumanizes the prisoner and is, therefore, a cruel and immoral policy.

In the middle part, Rhodes examines how the controlling custodial premise of the correctional facility clashes with irrationality or madness. Specifically, she examines how prisoners may engage in self-harm to escape extreme isolation. Regarding these issues, Rhodes writes, "Raging, depressed, or hallucinating men 'knot up' within the tiny confines of their cells. A second, paradoxical, effect is that tight control over the body precipitates extreme uses of the body itself" (2004, 29). Hence, because prisons have become de facto asylums of the seriously mentally ill and because extreme isolation breeds psychologically troubled behavior, prisons create inmate dysfunctions which, in term, are used to expand the problematic use of control policies.

This situation regarding the difficulties of managing preexisting psychological problems that result in a prisoner becoming confined and prisoners who develop psychological problems because of extreme isolation policies is the focus of the *Frontline* documentary, "Solitary Nation." In this documentary, the use of self-harm behavior, both by befouling the limited cell space or by physical self-harm, like slashing the wrists, are psychologically troubled practices. Yet, the control aspect of isolation, by punishing inmates with isolation, runs

counter to the types of treatment that would be necessary to initiate psychological healing. Worse, when an inmate ends their treatment, the policy is to return the prisoner back to serve out the sentenced period of isolation. Naturally, the prisoner regresses back to self-destructive and anti-social abnormal behavior, again requiring treatment. A similar problem of “treatment” cycles is described by Rhodes, who writes, “They are charges with easing his symptoms of paranoia, depression, and delusion, while recognizing that, as he says, these are related in “kind of a circle” to the treatment—or lack thereof—that he has already received” (2004, 110). Therefore, both Rhodes and “Solitary Nation” offer evidence to the problem of isolation as a source of psychological impairment.

Finally, in the concluding part, the balance between “tough” and “humane” isolating practice is assessed. To be honest, Rhodes does not paint a hopeful picture. The policies of inmate incapacity fuels the further need for greater incapacity. In one discussion with an inmate, the image of dogs in the pound is used. Of this, Rhodes writes, “Like the pound, units like this extend a condition of abandonment from which—by implication—the only exit might be death. The dog that cowers and can't 'show himself to be happy' is the one no one will take—the one too abused to respond” (2004, 206). Moreover, when the inmates are returned to society, the process of extreme isolation makes them poorly prepared to positively contribute to or conform with their communities, usually returning to criminogenic situations. Thus, the cycle repeats itself.

This finding is supported in Joshua M. Price's book, *Prison and Social Death* (2015). Price explores the many ways in which incarceration creates a sense of dehumanizing alienation. Among the forms of systemic violence and humiliation are invasive searches, separation from familial contact, even in the case of mothers and their newborn children, and extreme isolation. Furthermore, Price details the many ways in which the stigma of imprisonment lingers beyond the prison, including reduced chances for employment and housing, restrictions on voting rights, and limitations on receiving welfare benefits. On the cultural connotation of stigma, Price writes, “Finally, stigmas differ depending on the conviction. Peopled labeled sex offenders are particularly heavily sanctioned socially, politically, and legally. People convicted of murder also bear a heavy stigma, though the aura of menace or of horror is different from the moral revulsion and even violence that is evoked by sex offenders” (2015, 66). Price's principal methodology is open and semi-structured interviews. His main argument is that contemporary correctional policy is a form of state violence which prevents prisoner rehabilitation and successful reintegration into the community.

In sum, Rhodes' monograph reveals a micro-level view of the lived experience of institutional isolation. Each of her points are further substantiated by the studies of Jacobson-Hardy, Guenther, the *Frontline* documentary, and Price. Her argument is coherent and based is solid ethnography evidence that puts the conditions and consequences of extreme isolation under a critical scrutiny.

While Rhodes' monograph provides my case study, it is best balanced by other works which provide a macro-level context. Foremost among these supplemental works is *Golden Gulag: Prisons, Surplus, Crisis, and Opposition in Globalizing California* (2007) by Ruth Wilson Gilmore. This book is a sociological analysis of the “prison industrial complex,” specifically in how the profit motive has championed a new paradigm for

prisons. Thus, in addition to the functions of punishment, deterrence, and rehabilitation, the new paradigm promotes incapacitation, removing “dangerous” criminals from the population. Gilmore writes, “The rationale for the laws purported to be reducing violence in communities. The means was sentence enhancement, or intensified 'incapacitation'--to prevent people from committing crimes by keeping them in cages for as long as possible” (2007, 107). Therefore, the mere “warehousing” of inmates becomes both a supposed social benefit and a lucrative business for prison operators.

Thus, Gilmore offers a conflict theory analysis of the political economy of California which resulted in the massive prison building project of the 1980s and 1990s. Because of surpluses in finance capital, land, labor supply, and state capacity, California embarked on its prison binge as a form of dysfunctional Keynesian stimulus effort. Thus, the warehousing of disenfranchised populations becomes an economic driver for those providing services to the prison. This book is an important macro-level study to provide context to my main source text, which deals with micro-level analysis. However, Gilmore can become a bit drawn away by the broader exploration of the political economy, overlooking the nuances of correctional practice, such as the use of solitary confinement or forced prison labor.

Findings

In addition to the monograph's findings and the macro-level critiques, there are elements of history and culture that come into play when considering correctional policy. First, it is important to understand the historical underpinnings of isolating correctional practices. There are two works that address this issue. The first is Michael Fiddler's “'Superstition Will Add to Its Horrors': The Early American Penitentiary and its Gothic Shadow” (2011). The second is Norman Johnston's “The World’s Most Influential Prison: Success or Failure?” (2004).

In Fiddler's article, he explores how the Gothic imagination has conceptually underpinned the early American penitentiary system. Seeing the culture myth of death/entombment/rebirth as a paradigm for rehabilitation, prison reformers adhered to the concept that solitary confinement would create a “living death” from which the “penitent” prisoner would be reborn as a reformed individual. Fiddler writes, “The core logic that underpinned the formation of the modern liberal citizen in the shape of the inmate was premised on the notion of their civil death leading to a rebirth. To put this differently, the individual would experience change following their physical and figurative burial from society” (2011, 470). Though the moral and religious assumptions of this early period are no longer used to justify practices such as solitary confinement, the behaviors remain, like empty rituals devoid of greater meaning.

In Johnston's article, he reviews the history of the Pennsylvania penitentiary system, specifically Eastern State Penitentiary, with its focus on solitary confinement as a means by which to reform prisoners. He argues that the architecture and radial design of the prison was structured so as to create a space of total control, both in terms of isolating individuals and as enabling intensive surveillance over inmates. Johnston writes, “The reformers had gradually developed the idea that the key to true reform was complete isolation of inmates from one another, providing them with the right mix of solitude for reflection and perhaps reading and

some vocational training or useful work" (2004, 23S). Although the project failed, because of the pressures of overcrowding within the prison and because extreme isolation did not actually produce reformed criminals, the concepts were highly influential and, unfortunately, copied around the world as a "scientific" form of correctional practice. This article provides historical background to the practice of solitary confinement and leads to examples of how the policy has been "imported" to other parts of the world.

In this regard, it is helpful to look at an intercultural comparison of correctional policy. Hence, John Pratt's and Anna Eriksson's study, *Contrast in Punishment: An Explanation of Anglophone Excess and Nordic Exceptionalism* (2013), makes for an interesting contrast in carceral practice. In this work, Pratt and Eriksson undertake a comparative analysis between the correctional systems and cultural paradigms regarding the purpose of incarceration of the Anglophone world and the Nordic world. The authors argue that correctional policy is reflective of broader cultural value systems based on social exclusion, in the Anglophone world, and inclusion, among Nordic society. Hence, within the Nordic model, prison is viewed as a "sanctuary" wherein "protectees" (i.e. prisoners) are explicitly provided with instruction and guidance to help them successfully return to society "cured" of anti-social behavior (Pratt and Eriksson 2013, 120-127). Thus, the character of social stratification within the broader society, especially regarding social control, receives its most extreme manifestation in corrections.

Such an argument fits well with the cultural implications of Gilmore's criticism of the profit motive of the correctional system, Price's position regarding dehumanization of powerless populations, and Rhodes' observation of an us-v-them mindset between inmates and correctional officers. In each case, the reflection of social stratification can be found embedded into the correctional policy. This is further supported by the urtext of correctional studies, Gresham M. Sykes' *The Society of Captives: A Study of a Maximum Security Prison* (1958). Sykes describes how the correctional process creates a total institution which creates stratified social roles and identities for the prisoners and the officers. It is an exploration of how labeling and socialization is conducted by the correctional institution. On one hand, this is a functional aspect in controlling a "deviant" population. Yet, on the other hand, it socializes into further deviance upon leaving the correctional environment. Hence, the social stratification and exclusivity of the broader culture becomes intensified to a dysfunctional degree within the process of corrections.

Relevance

Prison reform is a pressing issue in the United States. Vast quantities of people from marginalized populations are being imprisoned for relatively minor crimes. Worse, after being incarcerated, these convicts are alienated from the broader society and, upon release, find it difficult to obtain employment and social support. Hence, it is no surprise that many convicts return to a life of crime to make ends meet. The cycle then repeats itself.

I feel that the anthropological perspective can help untangle the cultural elements that have led to the current state of dysfunctional correctional policy. By examining the underlying beliefs on punishment and redemption, we can understand where our intentions have become warped in practice. Because culture is holistic, it is important to understand how our current practice of corrections functions within our society,

recognizing successes as well as failures. However, when dysfunctions are manifest, it becomes our ethical duty to speak out against them and to look towards anthropological theory to find alternative options to reach the legitimate goals of correctional policy.

Conclusions and Suggestions

In conclusion, this study illustrates the many failings of contemporary correctional practice, especially that of solitary confinement. Yet, the inputs to this systematic problem are manifold and deeply enmeshed with cultural constructs of justice and redemption. Thus, policy reform is a complicated subject. Nevertheless, if the goal of our correctional policy is to be, as is often proclaimed, that of rehabilitation, then the current policies cannot be maintained. Specifically, the use of extreme isolation has proven to be a complete failure. Not only does it create or exacerbate psychological problems for the inmates subjected to such confinement, but it does so at a great economic cost that benefits only the stakeholders that own and operate the prison facilities.

Furthermore, solitary confinement renders the inmates unfit for being returned to the broader society upon their eventual release. Thus, recidivism is highly likely for such ex-prisoners. This flies in the face of another premise of correctional policy, that of deterrence. Because of the social and psychological damage inflicted upon inmates by extreme isolation, they may lack the necessary skills and abilities to do anything but return to a life of criminal deviance. In short, because the prisoner has been “broken,” any further threat of being “broke” has diminished effect as a deterrence. Furthermore, the social stigma that attends imprisonment creates a sense of alienation that is hard for inmates who spent their incarceration in less extreme condition to overcome. The challenge of surviving the social exclusion created by stigmatization is especially difficult for those who have had their social coping skills atrophied by solitary confinement.

It is especially telling that there are very few defenders of policies of extreme isolation among scholars or correctional experts. Even the most dedicated voices in favor of the incapacitation aspects of corrections are not keen on solitary confinement, seeing it more as a necessary evil than a useful instrument of control. Thus, if the goal is to remove from society those who would cause social harm, as those who argue for the incapacity role of corrections believe is necessary, then it would be better if the incapacitation was less expensive and caused less psychological difficulties. In sum, extreme isolation is too costly and complicated to be an effective control policy under the incapacity paradigm of corrections.

Therefore, the only reasonable policy is to end the practice of extreme confinement for all but the most uncontrollable of prisoners. These practices fail at fulfilling most of the major premises of correctional policy, rehabilitation, deterrence, and incapacitation. Even the punitive premise of corrections is often unfulfilled; victims or their supporters rarely see extreme isolation as being a sufficient or equivalent punishment for the hardships that have been inflicted upon them. Thus, extreme isolation serves no worthwhile function, but is exceedingly harmful to the prisoner. To conclude, because there is no compelling argument for the continuation of these policies, while the evidence of their failures mounts up, it is essential that policy-makers bring to an end the cruel practice of solitary confinement.

Lawrence (Locked Away. Class: Applied Anthropology)

As a double major in Anthropology and Art History, Lawrence Ramirez has a deep interest in cultural practices of displayed status, whether through exhibition of prestige objects, architectural design, and socially constructed ideologies of "place." It was this interest in cultural spaces, specifically in museums and libraries, which inspired him to pursue a college education. Though prisons are a far cry from the prestigious spaces of art museums or concert halls, they too are socially constructed spaces which have a pronounced effect upon the people who are placed within them. The space and form of correctional facilities are structured in accordance with cultural ideologies regarding justice and punishment. Thus, the social construction of space is a topic of relevance, whether studying the social elites in their treasure-filled exhibition halls or the socially excluded who are locked away in the depths of a prison. Lawrence Ramirez intends to continue researching, while earning a PhD, the manifold ways in which culture is expressed through constructed space.

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Human Terrain System:
The Sociocultural War of The Future

By: Ivan Zorotovich

Introduction

The topic of this paper is the Human Terrain System (HTS) and its inclusion of social scientists. Specifically, I focus on the role of anthropologists in the program, and how their techniques of gathering information were misused for the benefit of the powers that be rather than for the people that were being occupied. In this case, the people who were being occupied were Iraqis and Afghanis. The Human Terrain System was, "a program which embeds social scientists with brigades in Iraq and Afghanistan, [and] is billed as a mechanism for improving the U.S. military's knowledge of culture and local populations -- heretofore perceived as sorely lacking" (Redden 2009). Upon initial consideration[1] , the program seems to benefit everyone involved. While this was the public-facing presentation of the program, under the surface the HTS was gathering information that many believed would be used for military intelligence rather than being used for the benefit of the people it was meant to help. A debate ensued nearly immediately. On one side was the military and extensive coverage of the media on the subject, whilst on the other was a large group of social scientists that perceived the HTS to be another form of modern day colonialism, used to control a population. This great divide between the military and academics made the argument over the HTS an intriguing and controversial one.

The anthropologists and other social scientists involved in the HTS program had all the means of gathering information due to their cultural knowledge of the area, as well as expertise in the different techniques used to garner information from the people they were studying. Many of the uses of these social scientists were laid out for the public to see in several statements as well as different online journals. According to the United States Army Posture Statement released in 2009, the HTS had four main objectives, [Provide brigade/regimental commanders with relevant, socio-cultural information and knowledge and the dedicated expertise to integrate that understanding into their military decision-making process. Minimize loss in continuity between unit rotation and replacement. Research, interpret, archive, and provide cultural information and knowledge to enhance operational effectiveness. Maximize effectiveness of operational decisions by harmonizing courses of action with target area cultural context.] [2] The language used in the statement along with the constant media encouragement of the HTS, made everything seem as if it was going to remove all of the negative attention that The War on Terror attracted. Positive media attention failed to convince many of the different scholars who believed this use of social scientists would only be used for the greater good of the occupying forces.

My objective with this paper is to properly identify and illustrate how the Human Terrain System effected all of those directly involved with the project; anthropologists, military personnel, and Afghan and Iraqi

people. Each of these groups of people has a significant importance to one another and one does not make sense without the other. I will show how the relationships between all three parties had either a positive or negative effect, and discuss some of the conclusions that came to be because of these relationships. This paper builds upon scholarly work on the topic to discuss the ethical questions that the HTS program posed for anthropology. The information for this paper comes from articles in peer-reviewed journals, a documentary film, and a number of blogs on the topic of the Human Terrain System. My main focal point of information came from the monograph *Human Counterinsurgency: Human Science and The Human Terrain* by Roberto Gonzalez (2009).

Evidence

When it came to finding evidence to support my claims that the HTS program was one that did not operate the way it was said to, there was no short supply of places to find information that proved that to be correct. There are several reasons as to why the HTS program was just another mis-utilization of social scientists for the gain of military intelligence, rather than for the gain of the people. In presenting this evidence, I will also take into account the opinions of people who believe that the HTS was for the greater good, and that it was accomplishing what it set out to accomplish.

I will begin by covering the fact that while the program was made to be a humanitarian effort widely covered in the media; none of the information was to be made accessible to scholars and or the public! [HTS leaders have claimed that the data collected by HTS personnel is open and unclassified, yet James K. Greer (deputy director of HTS), has been quoted as saying: 'When a brigade plans and executes its operations, that planning and execution is, from an operational-security standpoint, classified. And so your ability to talk about it, or write an article about it, is restricted in certain ways.] (Gonzalez 2008) With this kind of a logic the military and or private corporations who own the rights to this information have everything in their control. They can easily manipulate and or discard unwanted information in order to present so called "progress" to their benefit. In doing this they have tricked the American public into supporting a war that does not need to be occurring. The way in which they are restricting the information is detrimental to the social scientists at hand because to remove ones ability to control their own work, you are taking away from the credibility that the scientist themselves wish to have manifest. "For ethical and political reasons, anthropologists working for humanitarian projects must maintain independence from the military power structures that increasingly dominate war zone arenas of humanitarian aid." (Price 2014)

[The Executive Board of the American Anthropological Association concludes (i) that the HTS program creates conditions which are likely to place anthropologists in positions in which their work will be in violation of the AAA Code of Ethics and (ii) that its use of anthropologists poses a danger to both other anthropologists and persons other anthropologists study. Thus the Executive Board expresses its disapproval of the HTS program.] (AAA 2007) This statement made by the American Anthropological Association's Executive Board makes a very key point in stating that the anthropologists at work as well as the people they are studying are potentially in danger due to the war. Most areas in which the HTS teams are located are areas of high hostility

and pose a threat to anyone involved. This is concerning because trying to gather information from civilians in hostile areas is very much so a hit and miss tactic. If any of the information leads to the death of someone in the surrounding area, it is likely that the families who were interrogated will pay some sort of price from opposing force. While on the other hand, if they decline to give information they will then be on the radar of allied forces. This puts the civilians at a major risk, but they feel obligated to give information to the HTS teams because they are put into a room with several armed soldiers and an armed scientist! So the illusion that is fed to the media of a "gentler counterinsurgency," is actually more of a heated interrogation. Examples of this were shown in the documentary film *Human Terrain: War Becomes Academic,* when tapes of Michael Bhatia's (HTS anthropologist) interviews reveal that when first coming into contact with a new group, the questions asked were concerning the needs of the local elders. Although as time went on the questions went from a needs assessment to questions asking about where the Taliban is located. This further proved thoughts that many scholars believed would occur, that upon initial practice the objective would seem aimed towards helping out the people in these villages, but in reality the true intentions were espionage and interrogative purposes. Beyond the dangers that were felt by the local population, the social scientists involved were also put in the dangers of war on a daily basis. Unfortunately so, three deaths are attributed to HTS scientists. Reverting back to the statement made by the AAA, everyone involved with this program was subject to the harsh realities of war, and the effects were felt by the people who being occupied, the American military, and sadly, the families of the fallen scientists who devoted their lives trying to make the world safer for our troops overseas.

As previously stated, I am going to offer a differing opinion besides that of my own and the scholars against the HTS. The following statement is taken from one of the main contributors to the development and practice of the HTS, Montgomery McFate, [Commanders in theater agreed widely that the teams assisted them in understanding their operational environment, and in a number of cases this improved knowledge and communication reduced friction and even conflict between the military and local civilians. To be sure, some in the academic anthropologist community saw HTS as a tool to oppress Iraqi and Afghan populations or to perform other equally reprehensible tasks. Sadly, these viewpoints, in contrast to the generally positive reviews by our commanders (and me), show the divide between the military and academic communities on this issue] (McFate [3] 2014) This statement encompasses everything that I have personally tried to highlight, the safety of our military in involved areas, as well as the notion that the program was not being used in an ethical way. My argument to this statement by McFate is one that asks, if the reviews are so high amongst you and the commanders in charge, why not release more information from the anthropologists instead of the word of mouth that you are trying to facilitate? This is flawed logic due to the fact, because if all things were just so easily accepted, there would be no real need for research. In opposition to this statement as well, comes from an interview that Steve Fondacaro (a former person in charge of the HTS) did with wired.com, "Thirty to forty percent of the people were not qualified…That is, social scientists who both were physically and intellectually fit to operate in austere conditions in Iraq and Afghanistan, and who were "flexible enough to work with a military organization" (Ackerman 2010) This statement almost directly disagrees with that of McFate's, and they used to have very close ties with one another. I do believe that a lot if not all social scientists being thrown

into the war gauntlet, were ill-prepared and lacked geographical and cultural knowledge of the areas they would be involved with.

Relevance

This topic is relevant to applied anthropology for a number of reasons. Unfortunately, it seems there is always a war going on. As of right now, these wars are primarily in the Middle East, and we are right in the thick of them. As applied anthropologists, we have capabilities that surpass the common American. In most facets of life we have a purpose or an area in which we can help improve and or understand how the local culture and history have an effect on the mannerisms of the people we are studying. Because of the specialized skills that we have, people in the military will look to us for help understanding what they do not necessarily know. That is what I think the HTS program initially set out to do, but in reality, things do not always go as planned. Although the HTS was overall viewed as unsuccessful by many people (including myself), I believe it is safe to say that even though this attempt was deemed unsuccessful we will still be called upon to try and solve conflicts in areas of war, and because of this war and anthropology will always somehow meet from this point forward. Therefore the relevancy will never go away unfortunately, but one can only hope that the in the future our utilization is far different than it was used during the time of the HTS.

Besides just being relevant to anthropologists, war is ever present in our daily lives via media. When you turn on the news you hear about different war ridden areas in the world, and at this particular moment it happens to be Syria. It was a topic heavily debated during the presidential election and opened up the eyes of many Americans who might not have given it their time. The debate surrounding Syria is whether or not we should send American troops to help the Syrians out. Although I would hate to see this occur, there would be things that need to be understood if we were to occupy an area. The military would need anthropologists and other social scientists to properly conduct research to identify areas of need and concern for the people sake, and for ours as well to properly help them.

The topic of War and anthropology also concerns me tremendously because of my personal ties with the issue. I have a handful of friends and family that are in the military and I know that if I were the anthropologist in charge of giving them information on the natives that they are trying to make relationships with, that I would do everything in my power to provide a solid relationship amongst my brigade and the local tribes/populations etc. So besides this issue being just related to anthropology and the world in general, its relevance will always be certain for me due to my family and friend ties to the situation.

“The need for a standing program to provide sociocultural knowledge should be well recognized after a decade of difficult military operations. Some Army observers, for example, believe the need for cultural understanding is one of the “top 5” lessons learned from the post-9/11 wars.” (Lamb, Orton, Davies, and Pikulsky 2013) As the quote above clearly states, this is not an issue that will just fade away with time. Or a problem that can just be avoided by the army. As unfortunate as war may be, the utilization of social scientists of all pedigrees is something that is unavoidable. Our abilities to interact with people of all races and colors is

an invaluable asset. So for these reasons I believe the inclusion of social scientists in war setting will be ever present, and relevant to our profession.

Further Research/ Conclusion:

The human terrain system came to an end officially in 2015 due to its "many problems that led to the decline of the program—its shrinking training classes, the termination of deployments, and what was initially a fairly serious cut in funding" [4] (Forte 2015). Much of the evidence already provided can make it very clear as to why the HTS failed, but if the project were to be re-conducted, what things should and would be done differently? As a budding anthropologist, I did my research on the HTS and throughout my research found myself saying out loud things along the nature of, "well why would they not do this instead?", or "if I had been a candidate I would have…." and so on and so forth. Given the opportunity to start the HTS from the ground up I would have personally taken a completely different direction with how it was conducted. One of the many things I would try to incorporate in further research of a "HTS" like program, would be a far more gentle approach to working with the local population. As I discussed earlier, many of the Iraqis and Afghanis who were questioned felt that they were being interrogated rather than being asked questions to their benefit. It is very hard to establish a genuine connection with the subjects at hand if they feel as if they are in a situation where they can not say no. To create a friendlier and less hostile situation would allow a program of this stature much more room to blossom, as well as make the people being interviewed more likely to want to participate. I would also like to make it so the anthropologists and social scientists hired for these programs have more rights to their work. I have already mentioned how the work done by all of the social scientists within this program did not have rights to the work they were doing. Instead of being able to publish and make their work available to the public, it was kept in the archives of the Untied States military and government. This is something I would most certainly abolish, because it disallows the scientists at hand true ownership of their work. Thus leading to a situation where, as an anthropologists you do not feel that the work you are accomplishing is truly yours, but instead it is that of the people whom you are working for. Which as an anthropologist, is very hard pill to swallow because we take a tremendous amount of pride in our research.

Over its near decade run, the Human Terrain System drew a lot of controversy from all ends of the spectrum. Whether it was the militaries false advertisement of the program, or how the academics were exposing all of the fallacies that were incorporated within the program, the HTS program most certainly made headlines. I believe that if we as applied anthropologists want to make an impact in the future within these fields, our voices need to be heard. We need to be more heavily involved in the process of starting the program up, rather than just being an added ingredient. Overall the HTS program was implemented far too late into the war to have a real impact, and because of its ineffectiveness, there were lives lost on both sides. I hope that social scientists are used more heavily in dealing with conflicts overseas, but in a way that is genuinely done to bring peace to the situation, rather than add to the chaos. Understanding the difference between gathering cultural information for benefit to bring peace, instead of using culture in a militarizing manner, can mean the difference between lives saved, and lives lost in the future.

Ivan (Human Terrain System. Class: Applied Anthropology)

Ivan Zorotovich majors in Anthropology: Applied. After graduation in Spring 2018, Ivan plans to obtain a doctoral degree and become a professor in Anthropology.

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Public Ceremonies and Rituals Portrayed in Moche Ceramics

By: Tatiana Cruz

Introduction

Ceremonial and sacrificial depictions have been seen throughout the earliest forms human history. Paintings or carvings on walls are common, and extend as far as ancient Egypt, to the Maya in the new world. Although ceramics are common in complex societies, no other civilization can compare to the magnificent ceramics created by the Moche people of Peru. The subjects of these pieces varied from men human figures to animals, plants, and anthropomorphized demons. They also included activity scenes from hunting, fishing, combat, and elaborate ceremonies. This paper will discuss three scenes depicted on the ceramics: sacrificial ceremonies, battle rituals, and hunting ceremonies. The Chicama Valley (Dos Cabeza and Huaca Cao Viejo), Jequetepeque Valley (san Jose del Morro), Lambayeque Valley (Sipan), and the Moche Valley (Huaca de la Luna) are the sites that display this evidence. This paper will also argue that the iconographies on ceramics (fine-line paintings on pot vessels and stirrup-spout bottles and their mold-made pottery) portray real ceremonies and rituals that took place.

Background

The Moche or Mochica-culture, extends 500 km along the coastal desert from the Piura Valley near the modern border of Ecuador to the Huaramey Valley in Peru, circa AD 100-800. These people were also a contemporary culture with the Nazca civilization in the south of Peru. The Moche left no written record, as alphabetic writing systems were not used in the ancient Andes (Pillsbury et al. 2001). Yet, they produced a vivid artistic record of their activities and their environment (Donnan 1978). Most of the data on the Moche comes from archaeological studies, both in the form of settlement pattern surveys and excavations of Moche sites. To a limited degree, historical sources from the colonial period or later have also been used (Pillsbury et al. 2001). Since the first European contact in the sixteenth century, the ancient Peruvian riches have been continuously excavated. Many tombs have been robbed, and the objects recovered have been sent away to museums and private collections. Only recently with the beginning of the twentieth century has any effort been made to record the associations of ancient objects with the time they were first found; hence, much of the knowledge which could have been gained about the ancient civilization from this area has been lost forever (Donnan and Mackey 1978).

From these archaeological excavations, the best-known evidence of how these people lived comes from icons depicted on ceramic vessels. Donnan (1978) says that much of the art appears to tell a story, giving tantalizing glimpses into the daily life, ceremonies, and mythology of the people who created it. Moore (2014) suggests that that the Moche created two major classes of exquisite vessels: mold-made pottery and vessels

covered with fine-line paintings. Research by Larco Hoyle suggests that Moche ceramics developed through five phases. The sequence is based largely on pottery shapes, particularly the stirrup-spout form (Benson 2012). However, the best representation of the scenes on ceramic vessels are found on Moche phase III and IV. Although Moche phase V also shows the same depictions of ceremonies, daily-life and change of style, the evidence provided is primarily on phase III and IV.

Discussion and Analysis

If the artists did depict rituals, ceremonies, and hunting on the vessels, then where would this evidence be found? In the following sections, the various pieces of evidence of the iconographies depicted on ceramics will be discussed.

Ceremonial Architectural setting

Benson and Cook (2001) suggest that the site of Huaca de la Luna, in the Moche Valley, is one of the rare Moche sites to provide evidence of organized sacrificial practices outside of mortuary context. This site is a principal ceremonial center that is composed of three platforms connected by a series of terraces, corridors, and plazas. According to Pillsbury et al. (2001), The Huaca de la Luna is very important because it is the first archeological evidence of large-scale sacrifice of captives by the Moche. It is also important because researchers have been able to study the well-preserved skeletal remains. The discovery of these tombs and burials provide a rare opportunity to compare the archaeological and osteological evidence.

Skeletal remains provide evidence suggesting that knives and clubs were the primary tools used for sacrifices and other ceremonial activities. In Huaca de la Luna, there are remains of upper torsos and crania that show knife wounds deep enough to pierce the skull. On ceramics, there are scenes that depict knives being used to slice throats and decapitate the victims. At the precise site of Tomb I, a wooden club with black residue was found. The residue on the club indicated that it had been repeatedly drenched in human blood. It is very likely that this club was the same type that was used to break crania and other parts of the victims that are depicted on not only the battle ritual but also the sacrifice and hunting ceremonies.

Sacrifice Ceremony evidence

Depictions of various types of torture and sacrifice were modeled and painted on ceramic vessels (Pillsbury et al. 2001). One of the most complex and best-known scenes painted on Moche vessels is the Sacrifice Ceremony depicted on a Moche IV stirrup-spout bottle now in the museum of für Völkerkunde, Munich. A roll-out drawing of this vessel drawn by Donna McClelland shows four large figures on the upper register. The large figure on the left, holding a goblet has been identified as the Warrior Priest. The figure to his right is the Bird Priest, and the figure standing behind him is a priestess. There is a fourth figure to the far right of the upper register, unfortunately not much is known because it has not been identified. Nevertheless, this figure is also important. It is large and it has a headdress with a back-flap, which can only mean that it was a priest of some kind. In the lower portion of the drawing, there are two individuals that appear to be drawing blood from the necks of two naked prisoners.

Evidence at the site of Sipan in the Lambayeque Valley, correlate this scene depicted with artifacts found. Pillsbury et al. (2001) suggest that the individual buried in Tomb I was found with items associated with the Warrior Priest of the Sacrifice Ceremony. Tomb II of this area contained regalia that would link that individual with the Bird Priest. At San Jose de Moro in the Jequetepeque Valley, two women were buried with headdresses and goblets similar to those of the priestess in the Sacrifice Ceremony. Moore (2014) adds that the Warrior Priest found in the Lambayeque Valley had four metal nose ornaments and half-moon sheets of beaten gold. His head was covered with a large sheet of hammered gold, shaped to fit the contours of his face. The priest was also buried with several crowns and several sets of ears spools.

Battle and warfare ritual evidence

Donnan (1997) suggested that the main objective of battle was not to kill the opponent but to incapacitate him by a blow to the face or the legs. The victors then stripped the defeated warrior and led them back to the temples. Birds are closely associated with the scenes of combat and are frequently shown accompanying warriors to the battlefield. In the ceramic bowl vessel at the Museum of für Völkerkunde, Berlin, it appears that warriors on both sides are Moche because foreigners are rarely depicted. All warriors wear a conical helmet, or a more elaborate headdress and a back-flap. Warriors also carry around or square shield with a long club.

Combat scenes are very common when depicting battle rituals. Fine-line combat scenes appear on some Moche III ceramic vessels but are most detailed in Moche IV vessels. Pillsbury et al. (2001) say that combat is presented almost invariably as a face-to-face encounter between paired opponents who fight with close-range weapons. Clubs are the typical weapon used in the scenes. Although individuals occasionally carry longer-range arms such as spear-throwers and slings, these are rarely shown being used against an opponent.

Round and square shields, and two wooden maces were found at Huaca Cao Viejo in the Chicama Valley. At Dos Cabezas, three wooden shields were also found. Each about 30 cm in diameter and covered with metal plaques. The dimensions of these objects suggest that they were used for ritual battle rather than for large-scale warfare. The Moche's purpose was to show details of what appears to have been a warrior cult or class. The elaborate dresses and ornamentation mark that the participants of the battle rituals were also elites. However, most of the evidence found regarding warfare and battle rituals reside at the Huaca de la Luna. As stated before, skeletal remains, weapons, and shields are found at that the Moche Valley. These are the best evidence that can prove that the depictions of battle ritual did happen.

Hunting ceremony evidence

Deer and sea lion hunting scenes are probably the most depicted type that is seen on the ceramic vessels. This is mostly because the Moche people were hunters and gatherers, the area in which they lived in was abundant with deer and sea creatures. Benson and Cook (2001) say that in ritual deer-hunting, long nets are represented in the lower register. The second attendant on the right, has a bulbous mace lying just behind him. He also wears a similar headdress and tubular ear ornaments identical to those individuals in the tombs of Sipan in the Lambayeque Valley. The hunters from the previous figure also resemble those in the scenes of

sea lion hunting. These sea- lion hunters wear the same tunics, headdresses, and ear ornaments. They also have a special bag tied around their waists like those worn by the net attendants of the deer-hunt scene (Benson and Cook 2001). Benson and Cook (2001) suggest the importance to noticing the presence of a woman wearing a shawl on the left side of the scene. Sitting in front of a house, she is in the process of preparing a stirrup-spout bottle. Just behind her, three other funerary offerings have already been prepared. What is quite interesting is that although these depictions of hunting take place, there also seems to be a linkage between the sea lions that are being hunted and sacrifice of humans.

Benson (2012) argues that the Moche Deer Hunt Rite provides an offering to the ancestors of water. During the dry season in the Andes (June to November), deer descend to the moist lowest slopes of the valley. Moche ceramic scenes often show priestly figures using clubs to drive the deer into a netted area, and well-dressed figures spearing them. Benson (2012) also suggests that deer hunters appear to have been at the top of the social structure and that some were probably rulers. Because the possibility of deer hunting was for the elites, deer was a valuable offering. Unfortunately, deer remains are rare in the refuse of Moche archaeological sites.

Evidence of maces and sea lion bones in Huaca de la Luna have been found. Pillsbury et al. (2001) say that there seems to be a symbolic linkage between the victims of the plaza and the sea lion bones. It may have been possible that sea lions were associated with the victims of the sacrificial plaza at Huaca de la Luna because during El Nino events the Moche had to compete against these marine mammals for diminished resources. Sea lions also destroy fishing nets and poach fish in the process. An individual buried in Tomb I on Platform II was unearthed with the canine tooth of a sea lion pup resting on the sternum of the individual. It has been suggested that this canine was not part of a necklace, but had been intentionally deposited on the body. Next to the body of the individual was a clay effigy with an image of a sea lion painted on its chest. On Platform II, by the side of Tomb I, the vertebra of an adult sea lion was found, along with sherds of domestic ceramics. An example of the clay effigy found is that of a ceramic vessel in the collection of the Museum für Völkerkunde, Berlin. The ceramic vessel represents a person strapped to a rack. The racks are depicted as sea lion heads, and the face and hairstyle of the prisoner resemble that of the effigy found from the plaza.

Summary

Three important scenes were selected for this paper that show iconographies on ceramic vessels were, in fact, real (Sacrifice Ceremony, Battle and Warfare Ritual, and Hunting Ritual). The first was architectural evidence at Huaca de la Luna in the Moche Valley. This is where organized sacrificial ceremonies took place. This site also provided evidence of skeletal remains and weapons used for these ceremonies. The Sacrifice Ceremony scene on a stirrup-shaped bottle was briefly explained along with the importance of the possibility that these scenes were in fact real. Priest human remains and their worn regalia excavated at the site of Sipan in the Lambayeque Valley also suggest their linkage between the vessels. Battle Ritual was another major depiction in ceramic vessels for the Moche people. The evidence of skeletal remains, armor, and weapons can be found in the areas of Huaca de la Luna, Huaca Cao Viejo in the Chicama Valley and at Dos Cabezas. Finally, the

hunting ritual was explored, providing evidence from drawings and paintings on ceramic vessels of deer and sea lion hunting. A brief explanation was also given as to why these animals are important and how they relate to the Moche.

Conclusion

With the evidence I have provided in the discussion and analysis, it is possible that the iconographies depicted on ceramics were actual ritual and ceremonies that took place. From the stirrup-spout bottles to other examples of vessels, the sites in the Chicama Valley (Dos Cabeza and Huaca Cao Viejo), Jequetepeque Valley (San Jose del Morro), Lambayeque Valley (Sipan) and the Moche Valley (Huaca de la Luna) provide evidence of weapons, worn dresses, and artifacts, and skeletal remains indicating that what was depicted on those ceramics did happen in real life. This leaves us with questions like; what was the exact purpose of drawing/painting these images on ceramics? Since there are no suggestions of a written record, is it possible that through ceramic iconographies are how they documented their practices? Only further research can answer these questions.

Tatiana (Public Ceremonies. Class: Archaeology)

Tatiana Cruz is an Anthropology: Archaeology major. Her pursuit of a degree in Anthropology allows the integration of interests in art, history, language, philosophy, and biology. After graduation in Spring 2018, she plans to attend graduate school to earn a doctoral degree in Classical Archaeology, travel the world, and become an educator.

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Bone Disease in the Viking Age

By: Andrew Burnell

Introduction

In the past, medicine wasn't nearly the same as it is in modern times. We can manipulate atoms and create chemical compounds that are far more effective than ancient remedies. Due to this, diseases were much more prominent in the days of old; killing off chunks of entire populations. Despite this, we have not quite mastered the art of curing diseases. Many of them live on to this day, especially bone diseases.

Vikings were the kings of the seas in their day. Known for being great adventurers, they were also fierce warriors on the battlefield. How would bone disease affect these people, given their culture is focused around strength? Would these people be viewed as weak and unimportant to those around them? Since they were ignorant to the idea of these diseases, would they have a unique view about them? In this essay, I plan on exploring these questions to establish a better understanding about not only bone disease, but the Viking culture along with it.

Ivar the Boneless and Osteogenesis Imperfecta

Born to Ragnar Lodbrok and Aslaug Sigurdsdottir in the 9th century, Ivar Ragnarsson (also known as Ivar the Boneless) was a Danish king (of areas that make up a large part of modern day Denmark and Sweden) known for conquering what is now Britain. He was known to be a ferocious and cruel leader who had a reputation of being a Berserker; fighting with uncontrollable trance-like fury. He is called "the Boneless" because the Viking sagas describe him as having "cartilage where bone should have been".

What about Ivar was it that caused people to describe him in such a way? One could argue that this could mean that he was flexible. In Danish Saga, he was depicted as a hero king being carried by his warriors on a shield (Smyth 1984). Was this due to his status as king or because he was lame? Further descriptions mention how he was a tall man with strong arms with which he used a more powerful bow and heavier arrows than his companions. These descriptions seem to contradict him being lame, but are they reliable? Do they truthfully describe this man or were they additions made to cement his powerful legacy? Ivar died in 873 AD from what some described as "a sudden and horrible disease". Maybe the disease that had killed him was also responsible for the nickname "the Boneless".

In 1949, the theory that Ivar had the disease osteogenesis imperfecta was put forth by Dane Knud Seedorf: *"Of historical personages the author knows of only one of whom we have a vague suspicion that he suffered from osteogenesis imperfecta, namely Ivar Benløs, eldest son of the Danish legendary king Ragnar Lodbrog. He is reported to have had legs as soft as cartilage ('he lacked bones'), so that he was unable to walk*

and had to be carried about on a shield." (Seedorff 1949). Further studies of this were prevented once William the Conqueror had his grave opened and burned the body (Garretsen 1992).

Osteogenesis imperfecta is a genetic disease that causes bones to be fragile and subject to fractures. This disease may be accompanied by a reduced lifespan, short stature, bone deformities, hearing loss, dentinogenesis imperfecta (disorder of tooth development), altered scleral hue (whites of your eyes), and abonormalities in connective tissue (Royce, Steinmann 2003). People born with this disease develop defective connective tissue due to lack of Type-1 collagen. This occurs when glycine amino acids are substituted with bulkier amino acids in the collagen triple helix structure. The bulkier amino acid side-chains cause interference that creates a protuberance in the collagen complex, which causes both the molecular nanomechanics and the interaction between molecules to be compromised. This may cause the body to hydrolyze the improper collagen structure. If the improper collagen is not destroyed, the relationship between the collagen fibrils and hydroxyapatite crystals used in forming bone is changed causing them to be brittle (Gautieri et al 2009).

Unfortunately, we do not have any solid proof that Ivar Ragnarsson had this disease. Since his body was destroyed we have no way of going to back and seeing for ourselves. For now, all we have to go on is tales and legends. I would imagine a bone disease that made it difficult to walk wouldn't allow Ivar to be the warrior and berserker that we was known for. But given lack of knowledge at the time of the disease, it would give the illusion of Ivar being "boneless" as he would not be able to walk and would need to be carried around. In the end, the fierceness and leadership he is best known for made up for his disability.

Egil and Paget's Disease

Born in the early 10th century in Iceland, Egil was the son of Skalla-Grim, one of the most famous Vikings in the Old Norse sagas. Egil adventured and plundered throughout Scandinavia, Northern Germany, Saxony and England as well. Despite being a fierce man, he was also a poet and was known for his strong sense of ethics. But behind that brawn also lies a man of high intelligence. All these attributes aside, one of the things he is most of famous for is how alarming his appearance was. Different in appearance from the men around him, but ugly like his father and grandfather before him.

Jesse Byock writes: "Through prose and verse, the saga tells us that Egil became deaf, often lost his balance, went blind, suffered from chronically cold feet, endured headaches and experienced bouts of lethargy. Furthermore, the saga describes unusual disfigurements of his skull and facial features" (Byock 1995). Given these descriptions, it's safe to say that Egil's ugliness was more significant than just not cutting it in the looks department. It is believed that he suffered from a disease that quickens bone replacement. The ailment in question? Paget's disease of bone.

First diagnosed in 1877 by Sir James Paget, the disease is genetic and gives weight to the claim as it would be very possible that his father and grandfather also suffered from this illness. The disease occurs when bones are broken down and ossified, but the bone remodeling process is disorganized. This can cause bones to be weakened, misshapen, fractured and can even cause arthritis near the bones that are affected. It typically targets a specific area with the femur, os coxae and the lumbar vertebrae being the most commonly

affected bones. When afflicting the skull, it can cause vision and hearing loss once the bone begins to surround the inner ear and compress the nerves attached to your eyes. Paget's disease can also cause deformity of the skull (Ralston 2013)

Many details about the stories told in the Sagas and by family are starting to line up with this disease. As previously mentioned, Egil suffered from both hearing and vision loss. A deformed skull can also explain why this man was so frightening in appearance. 150 years after his death, his descendant Skapti exhumed his body to move it to a new churchyard and was alarmed at what he found. The bones were much larger than normal human bones, especially the head which was much heavier than a usual skull. He noted that the skull was ridged all over like a "scalloped shell"; the only instance in Old Norse where these words were used to describe a human characteristic. These descriptions match what bones affected by Paget's disease look like. Wanting to find out how thick the skull was, Skapti grabbed an axe and struck the skull. Surprisingly, it did not break. Not only that, but it didn't even crack; leaving only a white mark where the axe had struck.

Egil often wrote poems about his afflictions. Writing about how his feet were cold or the pain he would feel in his "brow ridge" One of his poems state:

The horse of the necklace sways,

My bald head bangs when I fall;

My piece's soft and clammy

And I can't hear when they call

Norse poetry was famous for being puzzles of sorts. Using vivid imagery to paint a picture littered with critical information. The first two lines refer to his inability to hold his head up due to the heaviness. The last line refers to his deafness which is presumably brought upon by the disease (Hyock 1995).

Despite all the evidence written in these stories, Egil's body has not been unearthed since Skapti moved him. Thus, we cannot prove that these stories were true or that they pertained to Paget's disease. Thirty years prior, records of Paget's bone disease in Iceland were almost non-existent. Since this disease is genetic, it hurts credibility of the stories. But since then, cases have been popping up more frequently in modern Iceland. Perhaps the stories are true after all, but we cannot be sure until the next time Egil's body is found.

Tooth Diseases of the Northman

Vikings are often romanticized as brutal, savage men with a lust for the kill. Believe it or not, they were farmers. They would often settle in villages; building long houses and cultivating the land. Grain was a huge staple in their diet and was ground and baked into bread. Barley was their main crop, but spelt and rye were also grown and mixed into bread as well. Even though they were farmers, meat and fish were still the main part of their diet. These foods were course and were known to grind their teeth. They would drink a concoction made from

acidic whey and water which was known as “Mysa” and their foods were also preserved in the whey. This lead to very heavy tooth wear (Richter 2008).

Teeth were covered in calculus and scurvy was quite common. Mandibular tori, which are bony growths on the lingual side of the mandible, and palatal tori, found on the midline of the of the palate, were much more prevalent during this time than in modern day, affecting 50% (mandibular) and 39.5% (palatal) of skulls studied. At the time, dental caries were not a huge issue due to lack of access to sugar. Periodontal Disease also occurred, often causing severe bone loss in the mandible. Periodontal Disease affects the bone and the surrounding teeth tissue. They could already have a genetic predisposition for the disease, but also local irritants such as tartar can contribute. It is also possible that these effects on their teeth were not created by this disease, rather the eruption of teeth to compensate the tooth wear. Root abscesses are most common in the first molars which also were the teeth with the highest amount of wear. The (most likely) first example of cosmetic dentistry in the Viking world was a woman between the ages 36 and 45 years old having an unnaturally ground tooth.

Dental hygiene was not a thing back in the day, so it is not surprising that tooth diseases would run rampant. Living in a culture filled with sugary treats, it’s also hard to imagine a life where cavities aren’t common. It wasn’t until the 19th century that dental caries started to pop up in Iceland due to the increased availability of sugary foods and treats.

CONCLUSION

During my research for this project, I couldn’t find a lot of subjects for this topic to study on. This would either suggest that bone disease wasn’t very prominent in the Viking Age or that we haven’t found enough cases to go on. What’s interesting though is that with the case of Paget’s disease and osteogenesis imperfecta, not only do we have specific subjects, but they were important people. One could even argue legendary in this case as they were both prominent in the Old Norse tales. It’s interesting to go back and apply a modern take on what could have been the cause of the issues and deformities that they may have had.

Without bones to study, it’s hard to say if they had these afflictions, or even if what the stories they told about them hold any kind of weight. I personally believe the argument for Ivar the Boneless having osteogenesis imperfecta is weak. What we do have to go on is his men carrying him on shields during battle. Through my research, I discovered this is actually a normal occurrence for kings on the battlefield. The depiction of him being a fierce warrior and a berserker contradicts these claims. His name “Boneless” can come from so many different sources, but the fact remains that we don’t know.

Egil on the other hand is a very interesting case. We still don’t have any bones to study but many stories told from many different people seem to agree on the problems he had. He wrote poetry about his afflictions that suggested he suffered the same issues as someone that suffers from Paget’s disease. One could argue that poetry is left up to interpretation but I find there to be too much coincidence going on in this case to refute it.

Studying tooth afflictions showed that many of them we don't have an issue with today, but many that we have now weren't an issue for them. Seeing how their diet had an interesting effect on their teeth and ground them down, and how one woman could have her tooth modified to be ground down suggests maybe there was a cultural importance going on. In modern times, we have our own ideals about how teeth should look and judging from this, so did they.

My final conclusion overall is that bone diseases not only did not break the spirit of these men (and women) in the Viking world, but people still respected those with them. If Ivar did have brittle bones, it is very possible the people valued the will of the leaders as opposed to their physical abilities. Maybe a lack of medical understanding contributed to their acceptance of these men; something people of the modern day could learn from.

Andrew (Viking Bone Disease. Class: Ant 495- Ind. Study)

Andrew Burnell majors in Anthropology: Archaeology. He has had a great interest in Vikings and Norse mythology since high school. After graduation in Fall 2018, he hopes to study Viking artifacts in Scandinavia.

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Impacts of Electronic Production and Disposal

By: Serina Quintero

Introduction

This study explores how pollution, caused by the production and improper disposal of electronics, impacts humans and the local environment. Specifically, I focus on how toxins emitted by electronic manufacturing plants and waste sites have socially and health wise affected populations that have into contact with these toxic environments. Such populations include residents who live in contaminated areas and e-waste workers who handle and recycling electronic waste. The main ethnography I used is titled Toxic Town: IBM, Pollution, and Industrial Risks, which is about the experiences of residents from Endicott, New York who have lived in a contaminated area affected by a spill caused by the once operating electronic production plant owned by the technological service company IBM. Additionally, I used sources that detail the current issues regarding the policies associated with electronic trade, disposal, and contamination while also using research that assess the social and physical health risks posed to people who come into contact with such contaminated sites. The results of this study expose the effects that electronic products have on our environment and on humans. Additionally, I will demonstrate how more effective measures of electronic production can be taken to keep toxic waste materials from endangering the environment and the health of individuals while encouraging more environmentally safe and sustainable technological production.

Background

Attempts have been made to regulate the pollution and the disposal of hazardous substances, but still humans continue to be impacted by such pollution caused by our widespread use and insufficient regulation of electronic production and disposal. For example, the United Nations Environment Programme (UNEP) in 1989 adopted the Basel Convention, which regulates and restricts countries from exporting hazardous waste to other countries. Regrettably, the United States is the only developed country to have not yet agreed to the convention’s regulations (Basal Convention). The refusal to abide by such regulations puts people in harm, especially e-waste workers from other countries who do not have the means to recycle materials in a safe manner, and whose health is affected by toxins which contaminate local air, soil, water, etc. (Singh, 193). Although many countries have signed the Basel convention, the trade of electronic waste continues to disproportionately affect people in developing countries such as e-waste workers and recyclers who disassemble waste to recycle valuable materials found in electronics. Electronic production and disposal continues to impact humans globally, and e-waste workers aren't the only ones affected by electronic toxins. Here in the United States, residents have also been affected by environmental pollution caused by electronic production plants, as seen in the case of the Endicott, New York toxic spill which contaminated local underground water and soil and polluted the air with toxic fumes.

Discussion and Analysis

Around the world, individuals are exposed to environmental hazards through the pollution and contamination of lands caused by both electronic waste and electronic production. Electronic waste can cause environments to

became polluted when toxins from electronics leak into the soil, water and air. Likewise, spills from production plants can cause potential hazards to the surrounding area and put people's health at risk.

One town that has been impacted by industrial pollution is the town of Endicott, New York in the United States. In Endicott, the impacts of industrial contamination and pollution are a shared experience by its many residents. Endicott experienced a toxic contamination of the ground soil and water caused by a chemical spill from a deactivated electronic production plant. One anthropologist who has done extensive research in this town regarding the effects of the contamination is anthropologists Peter C. Little, who's work documents the struggles of residents of Endicott, New York; they have had to live knowing that their town is contamination by carcinogens caused by the once-operating IBM electronic plant which had leaked toxins, such as trichloroethylene, into the local ground soil and water (Little, 2014). During Little's ethnographic fieldwork, which took place between 2002-2003, and 2008-2009, he interviewed 53 residents, some of whom lived in the "plume" area that covers more than 300 acres in downtown Endicott (Little, 2014, 8,9). His ethnographic work explores residents' experiences, reactions and views on the mitigation efforts carried out by the state and by IBM (Little 2014, 10). Little's work is important in understanding both the social and health effects of toxic areas and contamination caused by the production of electronics by drawing extensively from the experiences of residents who have been personally affected by toxic leakage of harmful chemicals from the electronic manufacturing plant of IBM.

IBM, the International Business Machines Corporation, has played an influential role in the development and progress of technology and computing systems. Today IBM's technological and network services continue to be a widely used and integral part of our national and global landscape and can be described as the "the world's largest multinational computer and information technology (IT) consulting corporation" (Little 2014, 40, 44, 47). Little states that "IBM controls nearly 50% of the current Mainframe Industry profits" meaning that they are one of the leading computer server industries that is widely used and depended on by a large part of the globe. The industry provides an important service by providing servers. Servers are an integral part of most of our lives, considering that servers support "80% of the world's transactions [through] ATMs, airline booking, tax filings, health records...[ect.]" (Little 2014, 52). Although IBM has been a pioneering producer of computer technology, today they no longer produce or sell their own personal computers and have since sold that division of their company to Lenovo (Little 2014, 52). Although IBM has shifted their industry focus to providing computing services and technological consulting, IBM's past production of computer parts in Endicott has managed to create an ever-present industrial footprint of toxins in the town from the spill caused by IBMs' electronic production plant.

The contamination of Endicott started back in 1979 when IBMs' Endicott plant had spilled 4,100 gallons of solvent of trichloroethylene, tetrachloroethylene, dichloromethane, dichloroethene, methylene chloride, vinyl chloride and freon 113, in which "years later traces of benzene, toluene, xylene was also found in local groundwater"(Little 2014, 55). This concentration of chemical pollutants found near the plant in Endicott is also known as the "plume" which simply is a specific area in which contaminants are found to be located. In 1984 the site of Endicott's' "plume", or underground concentration of toxins, was classified as "closed" but the site was reclassified in 2004 as a "Class 2" site which meant it was recognized as a hazardous site that had the

potential to threaten health and/or the environment (Little 2014). Therefore, residents of Endicott have had to live in their contaminated towns knowing that their local groundwater and soil were contaminated with harmful toxins, many of which are carcinogens.

Due to the improper disposal of chemicals involved in the production of electronics, the people of Endicott were faced with intrusive harmful chemicals in their water, soils and air, including the chemical known as trichloroethylene (TCE), which was the main concern for residences and officials due to the risks posed by this toxic substance. The chemical Trichloroethylene was used for "metal degreasing" and "chipboard manufacturing" in the 60s and 70s by the IBM plant and can contaminate water, soil and even air when it becomes evaporated (Little 2014, 56). With such a cluster of chemicals located in the contaminated area, residences have been concerned about their exposure to such toxins such as trichloroethylene (TCE). TCE, which was banned in the 1970s by electronic workers in the Silicon Valley also poses obvious health risks and is known to cause cancer and harm to "the central nervous system, kidneys, liver, immune system, male reproductive system and developing embryo/fetus"(Little 2014,66). Furthermore, since it is a substance that can become easily vaporized and penetrate through upper ground levels it has been the primary concern of residents in Endicott who have been at risk of being affected by it since it has the potential to travel into basements, contaminating the air quality within buildings and homes (Little 2014,18,66).

Aside from the physical harm posed by the presence of these toxic vapors, the contamination of the environment has left residents dealing with the daily stress associated with their concern for their future health, the health of the family, and their frustration for what seems to be a lack of care and attentiveness to their community from the state and IBM. Although residents had varied views on the potential health effects of these gases, many expressed their communal concern over the protection of their health and the protection of their property in regard to its value. In Little's ethnographic work, he observes that many people believed health issues such as fatigue, nausea, sore throat, trouble breathing, birth defects, heart problems, neuropathy, nervousness and skin problems were effects of the contaminated environment and TCE (Little 2014,69). Likewise, when asked about the risks of living in a TCE contaminated environment, Shannon, a residence of Endicott, expressed her frustration about people who would tell her at public meetings that there was no connection between non-Hodgkin’s lymphoma cancer when she believed that there was an obvious connection of health and cancer in the town, and pointed to various people who she knew had cancer (Little 2014, 73). Even if diseases and illnesses experienced by residences are not considered to be caused by TCE, the wide array of illnesses described by residences thought to be associated with TCE clearly demonstrates residents' sensitive awareness of the risks associated with living in a contaminated site. Residents are always acutely aware of the fact that their health is in constant risk of being impacted by the contamination, even as mitigation efforts are seeking to decrease the presence of toxins. Therefore, even when studies suggest that substances like TCE do not cause sore throat and trouble breathing, residents are still left feeling harmed by their environment.

Another issue that arose within the town of Endicott had to do with the views and understanding of residences about the contamination in the city. When interviewing numerous residents about their understanding of the mitigation efforts to clean up the toxic "plume”, Little made the important observation that

there was a clear distinction between the knowledge of home owners and renters regarding the mitigation efforts to decrease the risks associated with the underground and vapor contamination of their home. Little observed that renters knew little or nothing about the ongoing mitigation effort to clean up the area, while homeowners were much more knowledgeable about the issue and the legal effort to mitigate the problem. One of the efforts to clean up the plume area in Endicott included the creation of laws aimed to ensure that renters were aware of "the results of environmental testing" but through his ethnographic work Little found that these laws aren't necessarily enforced and "renters were more likely to express that they did not understand how the VMS worked" (Little 2014, 116). So although Vapor mitigation systems were set up in many homes to help divert and prevent vapors from intruding indoors, many residents were simply unaware and uninformed about the environmental circumstance of their own living spaces.

In response to the toxic chemicals found underground, the state of New York in conjunction with the IBM company sought to ease the effects of the toxic underground plume by installing vapor mitigation systems in resident's homes in order to help reduce and eliminate the presence of toxic vapor fumes that had been contaminating the local air quality (Little, 2014). IBM, in conjunction with the New York State Department of Health, carried out investigations of the impacts of this spill in which IBM sampled "20-25 percent of the structures above the 300-acre plume (NYSDEC 2008)" and found that at least "480 structures [were] at risk of vapor intrusion"(Little 2014, 57, 58). In response, IBM since 2004 has installed 470 mitigation systems on 418 different properties (Little 2014,58). Likewise, pumping wells were installed after the spill in order to help mitigate and treat the contaminated underground water (Little 2014, 56). The Vapor mitigation systems work by lowering the pressure underneath a building so that it is lower than the pressure within the building, preventing gases from seeping in (Little 2014, 100). When asking NYSDEC officials about the effectiveness of the mitigation efforts, one official explains that although residences may feel mitigation efforts aren't keeping up with the contamination, the systems in place have done their job to lower TCE levels (Little 2014,102). Little reports that in 2006 the Agency for Toxic Substances and Disease Registry examined the presence and effects of substances such as formaldehyde, methylene chloride, and tetrachloroethylene released between 1987 and 1993 from the IBM plant and concluded that past exposure to these elements were not determined a health hazard (Little 2914, 106). Although findings suggest that there are no extreme health hazards posed by the presence of these chemicals in low quantities, many residents continue to be skeptical and question if their mitigation systems are really working (Little 2014, 109). "In many ways the VMS is like a mnemonic device, a constant reminder that the plume moves on even when you would rather forget and wish it was mitigated and gone"(Little 2014, 110).

The city of Endicott, New York was just one example of how people are affected by improper disposal of harmful substances in their environment. Unlike the city of Endicott, which has experienced great mitigation efforts to clean up the environment, many people around the world continue to be impacted by contaminated and polluted environments caused by improper electronic disposal of e-waste. People who are most effected by electronic waste are e-waste workers who dismantle electronics in order to obtain the valuable materials found inside and sell the dismantled parts to the market buyers. Recycling e-waste has benefits for the workers who make money off of the parts, but there are health risks associated with the e-waste dismantling, especially

when the manual recycling process is unregulated and done informally. Furthermore, the majority of e-waste ends up in developing countries which receive discarded electronic waste exports from developed countries such as the United States.

China, and other Asian and African nations are among the many places where e-waste is exported to, including countries such as Peru, Ghana, Nigeria, India and Pakistan, Singapore, Malaysia, Vietnam, Philippines and Indonesia (Singh 2016, 192). The United States ranked second just behind China as the largest producer of e-waste, according to a UNU 2015 report which stated that the U.S. produced 7.1 million tons of e-waste, while Japan was said to be the third largest producer (Singh 2016, 188). In the past years, Japan has established policies aimed to encourage more responsible and environmentally friendly modes of electronic production. In 2001, policy makers created laws and regulations which aimed to establish a method of turning electronic waste into “resources”. According to their 2001 home appliance recycling law, consumers were allowed to "return unwanted used refrigerators, televisions, washing machines and wall unit air conditioners to manufactures for recycling” (Kirby 2015, 41) and their “2003 law amendment…required manufacturers to recycle personal computers returned to them by consumers’” (Kirby 2015, 41). One of the most noticeable efforts of regulating electronic e-waste was seen by PETEC, a Panasonic initiative and facility built for dismantling electronics. The problem with the PETEC recycling facility was that the facility did not separate, or isolate toxic materials found in electronics from the nontoxic materials and just simply dismantled electronics into separate parts to be sold. This in turn allowed toxic electronic pieces to be sold but to be further dismantled by e-waste workers. As stated in Kirby “PETEC… yielded pebbles of leaded glass, now a ‘resource’ to be sold to Chinese… and others. Printed circuit boards did not end up converted to sanitized pellets of precious metal but instead were tossed in a bin for processing elsewhere.” (Kirby 2015, 44). Therefore, this initiative to regulate electronic recycling did not entirely recycle electronics, but instead dismantled electronics and sold then to be dismantled further elsewhere.

Although Japan has sought to make an initiative to implement policies which promote environmentally sustainable recycling of electronics in Japan, Japan has also acted in contrary to this purpose by formulating negotiation agreements with various other countries to allow e-waste exports to their countries. Although Japanese policy may seem to indicate an initiative to change the current circumstances regarding the informal and illegal trade of e-waste, the following quote demonstrates how Japan has purposefully interacted with various countries for their own security in their efforts to continue their e-waste trade:

> “starting with Singapore in 2002 and subsequent very similar agreements signed with Malaysia(2005), the Philippines(2006), Thailand(2007) and Vietnam(2008) Japan negotiated secretive economic partnership agreements that dangled powerful economic incentives like preferential tariff reductions for imports for these southeast Asian nations in exchange for their agreement to except toxic waste and other hazardous material from japan for processing and/or disposal.” (Kirby 2015, 42)

Therefore, although Japanese companies like Panasonic have created electronic dismantling facilities in efforts to providing an alternative to the harmful and unsafe practice of unregulated electronic recycling, the PETEC electronic dismantling factory fails provide an environmentally safe or human friendly solution for recycling e-

waste. Most importantly, the national interest of Japan seems to be instead focused on keeping the e-waste trade afloat.

Widely used electronics that many of us buy end up as waste when we decide to throw them out and replace them with newer technologies. Some very common electronic product that end up as waste are computers and televisions. A reason for this is the constant rise of new technologies that make older forms of electronics undesirable or obsolete. For example, television and computers that used Cathode Ray Tubes(CRTs) are no longer desired consumer products and are now replaced by flat screen TVs and slim computers and laptops that are manufactured instead with Liquid crystal displays(LCD) and Plasma Display panels (PDPS). CRTS is a component of a computer and/or television which processes the image formation (Singh 2016, 189) and is why older televisions and computers are much more boxier and have a protruding backside. Few of us would prefer to have a large, bulky computer to television sit atop our desk or TV stand when we have the option to buy a much more portable and lightweight LCD laptop or flat screen TV. Since consumer demands change, outdated electronics find their way to waste sites and recycling centers which are full of products with no consumer demand (Singh 2016, 187). CRTs pose health risks for individuals who live and work near these e-waste sites and who are exposed to the chemicals found in these electronic parts. TVs and computers contain many harmful substances and materials, such as lead (which is present in all computers) and mercury (Singh 2016, 188). The recycling of CRTs requires many steps; the most important process of dismantling of CRTs involves the separation of different glass types (Singh 2016,190). Since CRTs contain lead, this poses health hazards for people who are exposed to it. Furthermore, “according to UNEP 40% lead on landfills comes from electronic equipement” (Borthakur 2016,18). Lead can cause severe harm to human health and is estimated to account for “ 0.6% of global burden of disease and with the lightest burden in developing regions”(Singh 2016, 193). Regardless of the health risks, people continue to take part in unregulated e-waste recycling because of economic incentives, such as the value of recycling gold, silver, and copper components (Borthakur 2016,18).

One study observed higher concentrations of mercury found in the hair of individuals who lived or worked near the e-waste site in Giuyu, China, compared to the hair of individuals who did not live work near the city or e-waste site. Giuyu is famously known for its hazardous e-waste site, and more importantly, china has greatly been impacted by the widespread use and disposal of electronics. Disturbingly, it has been found that “80% of the world’s e-waste is said to be dumped in China” (Ni 2014, 84). Many of these e-waste sites contain substances such as mercury, which can cause harm to the “developing nervous system of children” and one's “cardiac autonomic activity” (Ni 2014, 85). Another study showed “higher blood lead levels (BLLs) in Guiyu children” (Borthakur 2016,19). Lead has been found to cause harm to the “central and peripheral nervous system, [and] can cause brain hemorrhages, and affect the kidney and reproductive systems (Singh 2016 191). In India, studies have shown higher levels of mercury found in soils near e-waste sites (Ni 2014, 85). Furthermore, “Heavy metal contents in rice samples from a typical e-waste recycling area” (Borthakur 2016,19) have been found in rice pads near the e-waste site.

The harm of e-waste recycling is further illustrated in the following quote of how people are in constant exposure to harm chemicals through electronic recycling sites.

> “E-waste often ends up in informal recycling centers, where it is sorted for reuse or broken down by hand and picked clean for valuable metals, then destroyed in inefficient, toxicant-producing settings, Schluep says. Open fires are tended by children, who are paid by dealers collecting metals such as copper. Schluep says girls who sell water to the workers in these settings also are exposed to the potentially toxic by-pro.” (Lubick 2012, A148).

In this quote above, from the article Shifting Mountains of Electronic Waste by Lubick, it is stated that electronics approaching their end of life are often shipped to countries throughout Africa in which harmful dismantling practices are carried out. This exposes many people to harmful and hazardous chemicals found in electronic parts.

The United States have not only been an exporter of electronic waste, but also an importer of waste from Canada. Michigan has allowed the import of Canadian waste to be dumped in waste sites in the state (Reno 2011, 24). Residents and activists have fought to stop the importation of foreign waste, but when examining this relationship, it is also important to acknowledge that many of the Michigan residents are not directly exposed to hazardous chemicals and toxins as other countries who continue to import U.S. e-waste. Although the harm associated with the transnational movement of e-waste is obvious, many countries have incentives to export and import e-waste. In china, e-waste an inclusive role in people's lives, and “Millions of jobs in the informal sector are a motivation for the government not to tackle the illegal shipments of e-waste too harshly…. [in which] stopping the flow of e-waste would take away the supply for these informal sectors and is likely to cause social unrest (Bisshop 2012, 20).

Relevance

Technology has permeated every part of our lives; it has become crucial and necessary for our continued daily habits. Yet, there are major repercussions of our widespread use and rapid disposal of electronics; both harm the environment and to the people. It's important to understand that electronics are made with extremely hazardous substances such as Lead, cadmium, and mercury which are harmful to the environment and in turn have the potential to harm us. Many of the common elements found in electronics and cause health risks for those exposed to these elements, such as e-waste worker (Borthakur 2016,19). Since electronics are such an integral part of many people’s lives it is important to understand the effects. Not only is it important to understand the effects of our use of technology, but it’s also important to think about the future implications of our continued reliance and adaptation to such a critical component of our lives.

Our global and national consumption of technology is very prominent, but our understanding of the effects of our consumption and disposal is often very limited. Our insufficient regulation of technology, coupled with our dependency and frequent use, manufacturing, purchase, trade and disposal of electronics has made it important to understand how our use and production of electronics is impacting our environment and human health. Although some of us may think of ourselves as being separate and independent from the environment, the relationship between humans, culture, and the environment are far from independent of each other. This interconnectedness can be seen in how our habitual use, manufacturing and disposal of electronics, continues to cause pollution and contamination to our environment and in turn affects us directly when we are in contact with such polluted and contaminated environments.

Conclusions and Suggestions

Although national and international laws are in place to limit the effects of the global disposal and trade of electronic materials, there is also a continued effort by these same institutions to continue the flow, trade, and import-export of harmful hazardous materials. There are economic incentives for many countries that continue to import and export, but at the same time there is a cost with the incentive. The cost is human health and safety. Many countries are affected differently by e-waste, but it is evident that less developed countries continue to be impacted most by the improper disposal of electronics. The boundaries of the e-waste trade are boundless; this is why it is so hard to make a solution for countries to engage in environmentally safe and sustainable recycling practices associated with electronics. Further research into the effects and changing landscape of the e-waste trade is suggested. Continued pursuance of regulations and laws may help, but economic incentives to produce and recycle electronics in a sustainable way is a necessary component for combating the negative environmental and health effects brought about by electronic production and disposal.

Serina (E-Waste. Class: Environmental Anthropology)

Serina Quintero majors in Anthropology: Archaeology. For Serina, a college degree is a necessary goal, and her interest in Archaeology awoke during an introductory course at Long Beach City College. Dr. Sarah Taylor-Tash's *People, Culture, and Environment* course inspired Serina's research on the impact of electronic waste. She observed our technologically dependent culture negatively affects our environment, including major repercussions on human health. After graduation in Spring 2018, Serina intends to obtain a graduate degree and pursue a career in Archaeology. Her ideal career is working in a museum or a State Park.

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Cholera

By: Nicole Simbulan

Introduction

Humans live in such a mysterious land filled with unknown creatures and diseases. In this case, *Vibrio cholera* plays the role of an[MP1] antagonist. This micrometer creature is powerful enough to destroy a human's body in a span of twelve hours. Unfortunately, when a disease erupts in an undeveloped country, it is difficult to recover because of cultural differences.[MP2] Through this correlating comparison of the water-borne disease cholera breakout in 1992 Venezuela and 2010 Haiti, it is explained that medical epidemics can often lead to environmental racism associated with unequal access to treatment and unresolved solutions.

Vibrio cholera

Cholera is one of deadliest epidemics the world has encountered in the past few decades. The gram-negative bacterium [MP3] called *Vibrio cholera* is the cause of cholera. Gram-negative bacterias' main characteristic is a cell wall that contain embedded surface proteins allowing the bacteria to adhere to their surroundings like the host's stomach lining. Contaminated water, undercooked or raw foods, and feces are potential vehicles for this bacterium (CDC 1)[MP4] . Cholera is an acute illness that infects and eats away intestinal cells causing severe diarrhea, vomiting, and dehydration. The wall of the intestines is responsible for absorption in the body, so when this is obstructed, the patient[MP5] 's stomach[MP6] is not able to obtain proper nutrients[MP7] leaving them starved, thirsty, and extremely weak. This is because everything is constantly excreted (CDC 1). Scientifically, *acute* is defined as how quickly the infection will disintegrate the body after exposure to the bacteria. In this case, cholera takes up to seven days to incubate and manifest in the host before death. After two days of infection, the person will start to feel feverish and cold. Eventually[MP8] , the patient will feel severe stomach and body aches. According to the Centers for Disease Control, or CDC, *Vibrio cholera* is transmitted primarily through[MP9] contaminated water (CDC 3). Sadly, countries in Southern America, Southeast Asia, and Africa are more likely to encounter this bacterium in their environment because of poor sanitation, high humidity, and moist conditions. The CDC explains that there were over two to three[MP10] million cases of cholera[MP11] yearly, with one hundred thousand deaths worldwide (CDC 4). Luckily, cholera cannot be transmitted through direct individual contact, thus eliminating any more infections. However, countries with poor irrigation systems are not able to escape the bacterium. The constant use of poorly irrigated water promotes the transfer of the bacteria between countries.[MP12] Since most water comes from the same source, the bacteria is easily transported. These bacteria rely[MP13] purely on the environmental aspects in which the people live. CDC reassured that cholera is unlikely to appear in the United States because of the constant irrigation care around the country. Unfortunately, Venezuela and Haiti do not have this system of privilege.

The Search for Clean Water

Cholera struck the Orinoco delta region in Venezuela in 1992. Researchers and anthropologists Charles L. Briggs (1992) and his wife Clara Mantini-Briggs (1992) were conducting fieldwork when the epidemic began. After his fieldwork, he and his wife wrote the ethnography *"Stories in the Time of Cholera: Racial Profiling During a Medical Nightmare."* Sadly, the infection killed two of their colleagues. The epidemic was hitting the delta faster than expected. As Charles Briggs described it, "cholera is nearly unrivaled in terms of the speed which it kills" (Briggs and Mantini-Briggs 2003, 1). At this rate, the citizens of Venezuela were in great panic. This was not the first time cholera made its first appearance worldwide, but Venezuelans still did not know how to handle such a quick tragedy. The beginning of the disease was a mystery at first, but it was now evident where it came from. The real tragedy of it all was that cholera was easily treatable [MP14] (CDC 3). Substantial rehydration can heal ill and infected patients rapidly; however, the treatment was not justifiable at the moment (CDC 3). Countries like Venezuela, Haiti, or Southeast Asia are socio-economically defined as third-world countries. In third would countries, clean water is a luxury. When the first case of cholera arrived, researchers attempted to characterize the targeted population or area. Health officers associated the poor as the group of people prone to getting infected with cholera (Briggs and Mantini-Briggs 2003, 27). Clean running water and working sewage facilities were difficult to obtain in Haiti or Venezuela. The inaccessibility was not out of the norm because the people were accustomed to the environmental lifestyle. Briggs described it as, "[practices like] sanitation" and "hygiene" became questions not just of infrastructure but of the population's lack of "hygienic practices" (Briggs and Mantini-Briggs 2003, 21). Poverty was somehow combined with lack of education about hygiene habits. For the poor, it was not easily reachable. Health campaigns stressed the prevention of cholera. For example, washing vegetables with boiling water and vinegar for a long period of time was ideal, as well as cooking meat and seafood carefully and thoroughly. However, the conditions in which these people lived often offered very little resources. The main focus of the monograph was the racial profiling that occurred during the epidemic (Briggs and Mantini-Briggs 2003, 29). Most of the Venezuelans who were affected with cholera were the *indígenas.* Briggs elaborated that, "Racism was a crucial factor that placed people in Delta Amaruco state "at risk" from cholera. Venezuelans who live in the delta region are classified as either *indígenas* or *criollos*- as either indigenous or non-indigenous persons specifically from a Spanish descent. Most of those who died from the diseases in the region were *indigenas*, classified as members of the "Warao ethnic group" (Briggs and Mantini-Briggs 2003, 29). Because of this, it is assumed that cholera just simply associated with *barrio marginales.* Barrio is translated to "neighborhood" but socially, *barrio marginales* is tied with violence, criminality, and poverty (Briggs and Mantini-Briggs 2003, 30). Venezuelan health officials quickly concluded that poverty is equivalent to terrible hygiene and the main targeted host for cholera. They also believed that cholera were appearing in places of violence and criminality. This, however, was not in their discretion. Indigenous people had limited resources with no clean running water[MP15] which lead to horrific hygiene practices. There was nothing the indigenous people could do to change their environment without the help of their government.

Racism in an Epidemic: Unequal Access to Treatment

This epidemic is unfamiliar to many people nationally. Like all media outlets, the information that is publicized is often filtered. Journalists only choose to educate readers how cholera is spread and could be treated. There was a lack of useful information such as proper protocols to protect those infected, and instead they focused on suggesting disinfectant procedures and prevention treatments for the contaminated water. For example, there are various suggestions on health campaigns regarding the treatment of contaminated water but instead, health officers should find ways to fix the country's irrigation system to provide clean and safe water. Venezuelan's cholera outbreak revealed that racism in an epidemic setting plays an important factor in finding treatment and prevention.

During the 1992 Venezuelan cholera epidemic, the country was left in terror. Their government stated that all street vendors and fish markets should discontinue their sales. Street vendors and fish farmers play a significant role in Venezuelan lifestyle. Through the markets, families are able to have access to seafood. As Briggs explained in the ethnography, "The attack on the itinerant food and beverage vendors intensified, and sellers of raw oysters and other shellfish were characterized as main culprits. These products were prohibited, and criminal action was threatened" (Briggs and Mantini-Briggs 2003, 41). This was an obvious obstruction to their culture.[MP16] Public health officers were convinced that the main transmission was through street vendors, but clearly, the issue was much bigger than that. The idea of cholera soon became a social status definition of unhygienic, poor, and ignorant people of Venezuelan according to many. It eventually focused to segregate sanitary from unsanitary people therefore creating inequality. Briggs explained,

> "Blaming the poor and *indígenas* for cholera accorded MSAS a key role in reproducing social inequality and legitimating the many sorts of violence that were directed at the people MSAS was attempting to help…cholera is a mark, a stigma, and confirmation of one's status as pre-modern, unhygienic, ignorant, poor, and more. They created a dominant narrative that focused on cultural difference and individual behavior and blamed the epidemic on foreign countries, immigrants, and street vendors" (Briggs and Mantini-Briggs 2003, 45).

The health department's focus was not anywhere near helping people, but rather focusing on cultural behavior differences, especially blaming certain groups of people like street vendors and the *indígenas.* MSAS, also known as Ministerio de Sanidad y Asistencia Social, was the agency responsible for Venezuelan public health issues. While cholera created the main focus for public health, it also created severe inequality.

Charles L. Briggs and Clara Mantini-Briggs decided to travel to an isolated village in Venezuela to examine the extreme effects of inequality. Tucupita, Mariusa is a small island just outside of the coastline that required a boat ride. From Briggs and Mantini-Briggs' experiences, they clearly mentioned that, "Not only is it "inaccessible," it is the home of the most "isolated" and "uncivilized" of "the Warao"" (Briggs and Mantini-Briggs 2003, 59). *Vibrio cholera* also visited the village of Mariusa causing many women, children, and men to cry for desperate help. Over decades, the Mariusans continuously pleaded for schools, polling places, but most importantly, clinics and a water tank. Horribly, their wishes were not granted. Because of this, the people of

Mariusan were left to use the resources around them which included fruits, forest products and swamp fish. However, their low supply was not enough to feed the village for a long period of time causing malnutrition[MP17] among the population. The fishermen were the gateway back to the city. Most of them were relied on to trade their fish and bring back goods from the cities. A fisherman was considered privileged because he had a boat, so he was able to sail from the village and go where he desired to. Eventually, this created problems when cholera attacked the Mariusans. Briggs interviewed one fisherman in particular to describe what the relationship between fisherman and indigenous people were like:

> "Salomón Medina's explanation of the Mariusans' immobility was quite different. "We were very aware of the extent of the danger- well, we were all facing death," he said. "Even though there was an outboard motor and a boat, we couldn't use them to take patients to the doctor because [Bustamante] was too stingy, and that's why many of us died" (67).

The Mariusan villagers begged the fishermen for help, but none responded back with kindness. They were left with lack of resources such as clinics, gas, motors, and boats.[MP18] Without the boats, the clinics were out of reach. The fishermen's focus on business caused death. According to Salomón Medina, the fishermen, Bustamante, and other anglers solely focused on the economic advantages for themselves. His intentions were strictly individualist[MP19] ic and economic. Bustamante believed that if he lent his boat to others, he would lose time to fish. Of course, other fishermen thought similarly. From the ethnography: "The fishermen had denied them a motorboat and gasoline to transport patient[MP20] s to the clinic in Nabasanuka or to the hospital in Barrancas. People were hungry and exhausted" (Briggs and Mantini-Briggs 2003, 69). Since not one patient received proper care, the bacterium continued to spread. It did not spread through person-to-person contact, but rather through unsanitary conditions. This killed many. Culturally, the Marisuans turned to spiritual healing for help because they did not understand the disease in any way.

People were beginning to lose faith when they experienced the death of the *hebu,* also known as a spiritual leader. When cholera struck their spiritual healer, the village was left in distraught and fear. At this moment, the fishermen realized that there was nothing left to do but give the people a chance to use their motorboats to get medical help outside of the village. When this happened, Bustamante finally loaned his boat and gasoline. As Briggs remembered it, "Many families had no access to an outboard motor, and they painfully recalled paddling their way to safety" (Briggs and Mantini-Briggs 2003, 70). There were not enough boats to help all families and sadly, not all villagers made it to clinics. Some ended up in Yakariyene, a shelter outside of Tucupita Marisuan, ran by a governmental architect. It was not enough to support more than one-hundred-fifty to two-hundred people. There were communal bathrooms which were severely unsanitary, so most would rely on the river for bathing necessities. Unfortunately, the villagers who resided on this shelter in the outskirts of Tucupita were the *indígenas.* As Briggs' elaborated,

> "It symbolized the way that the municipal government and the residents of Tucupita tried to segregate *indígenas* from *criollos.* By housing *indígenas* in this squalid, overcrowded, and unsafe mini-ghetto,

they made sure that the *indígenas* were kept out of town. The living conditions at Yakariyene were widely regarded as proof that *indígenas* are ignorant, backward, filty, and lazy" (70).

This form of segregation was cruel. Briggs and Mantini-Briggs never truly mentioned what happened to the *indígenas* after this incident. The *criollos* who made it out of the island found a clinic in Nabasanuka. Most villagers left their belongings at home to escape out of the delta as soon as they could[MP21] causing them to lose everything they worked for.

This incident in Tucupita, Mariusa demonstrated that an epidemic can cause so much chaos and racism within a community. Not all ethnocentric actions are across nations, and sometimes they are between villages. As seen from the monograph, nothing was accomplished in this time of distress because of subcultural differences. Culturally, the *indígenas* and *criollos* live in the same village, however sub-culturally, they are from different descents. This issue caused some tension leading to the unfair treatment for cholera. Significantly, cholera became a socio-economic status that somehow defined who they are as a group. The MSAS did not respond to neither the *indígenas* and *criollos* for their cry for help[MP22] , leaving the situation unresolved. Unluckily, this type of situation still repeats itself today.

An Ongoing Situation: History Keeps Repeating Itself

Unfortunately, cholera is still an ongoing issue. To this day, the bacterium still revolves around contaminated water and food nationally. After Venezuela's epidemic in 1992, another occurred in Haiti in 2010 after a devastating earthquake. The country was already under distress, and sadly the epidemic left the people exhausted, starving, ill, heartbroken and afraid[MP23] . The news article by Camile Domonoske titled, "*U.N. Admits Role in Haiti Cholera Outbreak That Has Killed Thousands,"* provided by NPR was released in 2016 to inform readers of the possible cause of the Haiti cholera outbreak in 2010. Experts argue that the United Nations had a peacekeeping camp around the same time that the outbreak happened. They believe that cholera first emerged from the camp itself. Sadly, soon after that, cholera patients were being admitted rapidly [MP24] (Domonoske 2016). It is unbelievable that a cholera epidemic was revealed from a United Nations camp because most believe that this is unlikely to ever happen. [MP25] Another article by Richard Knox called, "*Verdict: Haiti's Cholera Outbreak Originated in U.N. Camp"* also discusses the spread of the 2010 Haiti cholera outbreak. Knox explains the detailed geographical standpoint in which the disease was spread (Knox 2011). The Artibonite[MP26] River, a 320 kilometer-long river running across Haiti, was the main source of water, thus easily spreading the bacteria everywhere (Knox 2011). The article also provides the reason and technicalities of the United Nations camp itself during the outbreak. Knox argues that the camp itself was not capable of preventing any of the bacterial infections, therefore the infection was easily spread (Knox 2011). This is an important discovery because it can provide suggestions for prevention in future circumstances.

Haiti's outbreak caused people around the world to reach out to help. A campaign written by Unicef USA has provided basic information in response to the 2010 cholera breakout in Haiti. The campaign's main focus is to educate readers and communities of the effects of cholera and what to do about the similar situations (Unicef 2010). It lists the amount of help Unicef has done to prevent cholera even further. This article

postulates the idea of applied anthropology and what others can do during an outbreak. This, however, can be related to the Venezuelan government's way to providing help. Instead of aiding through building water irrigation system[MP27] s or rebuilding houses after an earthquake, Unicef solely lists ways of preventing cholera and not the treatment.

Fortunately, after the epidemic in 2010, the United Nations took a step forward to build a water supply system in Lascahobas, a village in Haiti. This article called, *Haiti: UN Inaugurates Water Supply System in Lascahobas as a part of Anti-Cholera Fight"* written by an unknown author, proposed by the United Nations News [MP28] is basically a response to the breakout in Haiti. In response, the U.N. has installed a water-supply seven years after the epidemic, in a [MP29] small community called Lascahobas (U.N. 2017). The article does not state the community's reaction to the gesture. This article supports the claim that ever since the cholera breakout, it is important to keep a great effort to ensure safe and clean water to eradicate cholera in African countries. Another article written through the World Health Organization from their *Weekly Epidemiological Record* states the importance of controlling the epidemic in many African countries. It argues that the prevention that needs to be applied based on the local's needs. It emphasizes the important roles that social services, field actors, and central government has with the problem (WHO 2016). While this report does not contain anthropological insights, it provides the crucial solutions to preventing and treating cholera in African countries, and also worldwide.

The Haiti 2010 breakout is a repeat of the 1992 Venezuelan epidemic in some ways. Not only is it the same bacteria, *Vibrio cholera,* but it also affected the communities very similarly. Not long after the Haiti incident, Venezuela was hit again. This news article written by BBC News titled, *Cholera Alert Reaches Venezuela via Dominican Republic*, declared that twenty Venezuelans obtained cholera after a trip from the Dominican Republic. The main argument is that the Dominican Republic has roughly around two-hundred thirty-eight cases of cholera back in 2011. This event occurred three months after Haiti broke out with cholera during the earthquake. At this moment, third world countries were suffering from the epidemic. In this case, Venezuela has been fighting cholera reintroduction since 1992. [MP30] It is not active worldwide, but the disease itself can be spread any time. The governments for both Venezuela and Haiti did not provide proper treatment and care, but rather suggestions on prevention. Third-world countries do not have enough resources to support themselves through such a devastating epidemic like cholera without aid.

The understanding of epidemics and diseases through anthropology can assist in making the right decisions regarding humans and cultures. According to the Public Health Matters article, *Understanding and Addressing AIDS- Related Stigma: From Anthropological Theory to Clinical Practice in Haiti,* it deliberates the anthropological perspective on epidemics such as AIDS, TB, cholera and more to provide a better understanding of clinical practices in Haiti (2003). The main argument entails that not many people worldwide understand the significant effect diseases have in countries like Haiti.

A Hopeful Resolution

Racism and ethnocentrism are still ongoing issues that humans have a difficult time understanding.[MP31] Ethnocentrism is the idea that all other cultures are inferior to one's own. In this case, the indigenous people of Venezuela are the victims. It is not so much that the indigenous people are completely different to other Venezuelans, but rather they are a subculture separated from the *criollos,* or Spanish descent. I believe that health should be a priority worldwide. Racism is an epidemic setting is a recipe for disaster. When health officials are focusing on social issues rather than solving the infection issue itself, nothing will be resolved. Anthropologically, this is an issue of racism. This ties into cultural differences that are distracting the process of helping those who are infected and dying from the infection of cholera.

This research can educate others about the consequences of a contaminated water disease that spreads because of poor sanitation. Not many people from developing countries are aware of the privileges we are granted here in the States. Health necessity opportunities[MP32] , ranging from simple irrigation system[MP33] s that provide clean drinking water to hospitals accessible anywhere. My goal is to further inform readers that anthropology can be used to understand epidemics like cholera and provide help with these global contagions.

While writing this research, another news article appeared called, *Cholera Death Toll in Yemen Reaches at least 180: Red Cross*. Roughly around one-hundred-eighty patients were admitted for cholera infection this year. The United Nations article declared, "Only a few medical facilities are still functioning and two-thirds of the population are without access to safe drinking water" [MP34] (2017). This is a devastating event because it truly shows that cholera is never eliminated. The only way that it can be eradicated is through clean water since it is transmitted through contamination. Unfortunately, there have been cutbacks with the EPA, or Environmental Protection Agency, budgets. National Geographic wrote an article called, "*This is How the EPA Uses Its Budget- Now Targeted for Deep Cuts"* by Sarah Gibbens focusing on the environmental concerns worldwide. It elaborates how the EPA uses their provided budgets for issues worldwide. It focuses on concerns like clean and safe water, clean air, land preservation and restoration, healthy landscapes, and environmental stewardship. The EPA has used ninety percent of their projected budget into clean air, land, and water however, there has been a controversial shift recently that the budget has been reduced by thirty-one percent (Gibbens 2017). Without support from the EPA, it is almost unclear how the clean water can be obtained in these countries.

Conclusion

Through this study of cholera breakout[MP35] s in 1992 Venezuela and 2010 Haiti, it was proven that medical epidemics can often lead to environmental racism. Specifically focusing on the two countries and tied it into current events today. The results of this study was that cholera is still able to transmit through unregulated water.[MP36] Significant events like a cholera breakout come with severe costs and casualties, physically and socially. Culturally, humans are not adapted to accepting change. Instead of looking for solutions, humans are looking for blame. Cholera is still well and alive today. As humans, we must learn from past events in order to

overcome a similar situation. I hope that this will inform others of cultural issues rooting from a medical nightmare around nationally.

Nicole (Cholera. Class: Environmental Anthropology)

Nicole Simbulan is a fourth-year student majoring in Clinical Laboratory Science and minoring in Anthropology. Her passion for helping others and studying human health and cultures led her to pursue a college education. *Cholera* was inspired by the ongoing cultural and healthcare issues worldwide. After graduation, Nicole hopes to conduct research for the Centers for Disease Control and Prevention.

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A Comparative Essay on Leacock, Geertz, and Radcliffe-Brown

By: Jessica Sandoval

Introduction

Anthropologists have strived for centuries to understand the nature and dynamics of human culture. To understand such a complex question anthropologists took a variety of theoretical standpoints. The two most significant approaches are idealism and materialism. Idealists believe the most significant features of a society are its ideologies, values and belief systems, which are the driving forces shaping culture and its inhabitant's worldview. Materialists use scientific methods to form general laws explaining a societies functions and the way its inhabitants adapt to one's environment. In this paper, I discuss the work of materialist Eleanor Burke Leacock, idealist Clifford Geertz and will use the work of both anthropologists to illustrate the dual standpoint of A.R. Radcliffe Brown. I define the key elements of each theorist's standpoint, summarize how their positions are similar as well as different and conclude with specifying which position I find most persuasive.

Theorists

Eleanor Burke Leacock was a dedicated feminist, applying neo-evolutionist approaches to prove the correlation between the subordination of women to the rise of capitalism. Christine Gailey noted Leacock's studies "focused on the transformation of societies through colonially catalyzed class and state formation, giving particular attention to the imposition or encouragement of capitalist development in the postcolonial period and to consequent changes in women's authority and autonomy" (Moore 2012, 200). Leacock's 1978 article, *Women's Status in Egalitarian Society: Implications for Social Evolution* is a strong example showcasing her materialist ideologies that defend her conviction that women's subordination in egalitarian societies was due to Western expansion of capitalism and not to universal ideologies.

Leacock conducted a complete reexamination of the Montagnais-Naskapi peoples of the Labrador Peninsula and found women's roles being autonomous and equally powerful to those of men. Leacock believed the previous subservient misinterpretation of a woman's place in Labrador's society was due to three earlier accounts. First, the political and economic statuses of the groups studied were never truly sought out. Second, the research on women was significantly lacking and Western perspectives viewed women as less than men. Lastly, the tribes discussed were merely Western reified concepts, the cultures studied had been incorporated into Western economic and political realms long before the ethnographers began their work. Utilizing ethno historical and theoretical reinterpretations of women's roles, Leacock comprehended social evolution not as unilineal, but involving immense qualitative changes in the associations between men and women. To understand the subordination of women in egalitarian societies, Leacock argued one must first put aside predispositions of Western ideals of power and property and pay special attention to Western capitalist

development and its consequent modifications to women's social roles. Leacock concluded with the reaffirmation that the subordination of women was due to the Western expansion of capitalism and was not due to universal ideologies.

Clifford Geertz's idealistic approach viewed ethnography as the construction of multiple acts of interpretation. Geertz claimed, "interpretation was not an anthropologist's unverifiable opinion of another cultures motives and actions, but rather an informed exposition of how those motives and actions were meaningful in a specific cultural context" (Moore 2009, 315). Regarding religion, Geertz claimed functionalism's static, ahistorical approach lead to an over-conservative view of the roles, rituals, and beliefs played in social life. Functionalism's inability to cope with change was due to treating sociological and cultural processes on equal terms. Rather than treating sociological structure and cultural processes as equals, Geertz declared they be simultaneously treated as independent and mutually interdependent factors. Distinguishing between culture and social system, Geertz considered the contrasting integration characteristic of each one. Logico-meaningful integration is a characteristic of culture and is a unity of style, of logical implication and of meaning and value. Causal -functional integration is a characteristic of social systems, and is the type of integration operating like an organism, where all the individual parts are connected and keep the system going. Finding radical discontinuities between societies where change was a characteristic allowed Geertz to display primary driving forces in change. Geertz demonstrated the usefulness of his dynamic functionalistic approach by example in his 1957 article, *Ritual and Social Change: A Javanese Example,* where he illustrated a failed funeral ceremony in the small town of Modjokuto, located in eastern Central-Java.

Modjokuto society functioned on the syncretism of many religions, but all inhabitants participated in the communal funerary ritual of slametan. The long-standing funeral ceremony was meant to bring communal harmony (rukun) and provide guidelines for proper mourning practices (iklas). But due to rising "nationalism, Marxism and Islamic reform as ideologies" (Moore 2009, 321), the society was divided into two major political parties; the Masjumi (Islamic Party) associated with santri, and the Permai (anti-Islamic) associated with abangan. The confusion of political standpoints and religious beliefs resulted in the religious leader (modin) refusing to lead the funeral of a young boy whose uncle's political standing was with the Permai. Instead of the funeral functioning as a rushed and efficient ceremony, it brought on social strain and spiritual tension. Geertz blamed the failed funeral on gaps between the causal-functional dimensions and the logico-meaningful dimensions resulting in social and cultural conflict.

A.R. Radcliffe-Brown fought tirelessly to defend his materialist belief that "social anthropology [is] grounded in the comparative method its goal [is to elucidate] lawlike generalizations about human society" (Moore 2012, 138). He spent most of his time studying the cultural beliefs of a society, and from those ideologies he formed general laws. Studying those ideologies, I believe, makes Radcliffe-Brown an idealist as well as a materialist. He is not able to form such general laws without the combination of both approaches. His 1951 lecture, *The Comparative Method in Social Anthropology* showcases his utilization of the comparative method while simultaneously employing idealist approaches.

Radcliffe-Brown's lecture begins by defending the comparative method and its primary role in social anthropology. He poses the argument that the history of a culture cannot be recreated and any attempts by past scholars yield second-rate, imaginative histories positioning scholars no closer to understanding how societies function. Instead, he argues for the utilization of the comparison method to generate universal laws explaining how societies are structured and sustain themselves regardless of their history, location and culture. Radcliffe-Brown elaborates his theory by thoroughly examining societies spanning New South Wales and Northern California. His research focused on societies that have created an opposition to one another using natural elements, in his case the labeling of moieties with opposing animal names. Once the comparable observation of moieties was perceived, he asked a question specific to that individual society, then developed a broader question that encompassed all the comparable societies. Radcliffe-Brown eventually formed the general law that "wherever, in Australia, Melanesia or America, there exists a social structure of exogamous moieties, the moieties are thought of as being in a relation of what is here called opposition" (Moore 2009, 161).

Discussion

It is easy to see the validity of Leacock's and Geertz's opposing approaches. Leacock utilized a materialistic approach by comparing post-colonial histories and formed the argument that the subordination of women was a direct consequence of the rise of capitalism. Geertz utilized an idealistic approach by studying a societies ideologies, values and belief systems, and elaborated how those forces shaped the culture and its inhabitant's view on a once ritualized funeral ceremony. Radcliffe-Brown differs from them both, as I argued previously, because he combines both materialism and idealism. His approach seems strictly materialistic, because he employs scientific methods of explaining a culture, in his case the comparative method. But while he insisted that culture was of no significance to understanding a society, his main research was based on observable cultural traits.

Conclusion

I have reviewed the work of a materialist, an idealist and someone whose standpoint was somewhere in between. Reading the articles has provided me with a solid theoretical standpoint myself. I believe a combination of idealism and materialism would be the most beneficial theoretical approach to understanding the nature and dynamics of human culture. I believe anthropologists should focus on the goal of providing an accurate representation of culture. The argument of which theoretical approach is better distracts from the goals of anthropology, a better understanding of different cultures. Anthropologists should combine both theoretical standpoints because culture is not stagnant, it is ever - changing, so why should theories applied to the understanding of them be stuck in time themselves? The dynamic nature of culture calls for more than one method of analysis, and cultures deserve to be completely studied before illustrations are provided that we ourselves don't truly understand.

Jessica (Critical Analysis. Class: Anthro Theories)

Jessica Sandoval majors in Anthropology: Archaeology with a minor in Sociology. Transferring from Sierra Junior College, she was encouraged by family, professors, and peers to pursue a degree at CSUDH. She wrote *A Critical Analysis of Anthropology* after studying theorists examining human nature and culture. After graduation Spring 2018, she plans to put her degree to work in the great outdoors.

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The Japanese Garden and Fairy Garden on the California State University Dominguez Hill Campus

By: Luis Candelario

Abstract

California State University Dominguez Hills (CSUDH) is located in the city of Carson, California. According to the book, *California State University Dominguez Hills* ***[1] the campus was named after Juan Jose Dominguez, who received the first land grant in California in 1784. Leo Cane was the first CSUDH President and hired the A. Quincy Jones architecture firm to create a campus physical master plan. By 1973 the CSUDH campus had opened with the Library, Natural Science and Mathematics (NSM) building and the Social and Behavioral Science (SBS) building. In 1976 Cane was followed by Dr. Donald Gerth as the CSUDH president***[2]. The purpose of this research is to show how parts of the landscape not included in the original master plan have arisen on the CSUDH campus. For this research two gardens were investigated on the campus, the Japanese Garden on the first floor of the SBS building and the Fairy Garden. The campus and the gardens have a direct and indirect influence from the surrounding Japanese community, and they also reflect concepts of environmentalism in the time of their creation. The Japanese Garden was a large scale project that brought the campus and the surrounding Japanese community together shortly after the construction of the main campus. The Fairy Garden is a more recent garden that showcases the impact that three employees can have on the university's landscape with repurposed materials.

Introduction

This paper will evaluate two gardens on the CSUDH grounds. These two gardens are unique to the CSUDH campus because of how they came to be. The two gardens do not represent landscape architecture planned in the master plan, but they do reflect significant moments in time. The first garden is the Shin Wa En Friendship Garden also referred to as the Japanese garden, the second garden is the Fairy garden. This paper will begin with a brief background on the campus landscape and a map showing the location of the two gardens.

The landscape of Cal State Dominguez was the vision of architect A. Quincy Jones. His vision can be seen today in the campus' odd multilevel construction, odd in that the buildings are entered through the second floor. Photo 1 shows this three level design. The reason for the odd design was that it reflects the environment/landscape at the time of the planning and construction of the campus. Photos of the location of the campus pre and post construction can be seen in photos 2 and 3.

At the time the original plan was designed, the surrounding context of the campus consisted primarily of oil fields and undeveloped land. Within this context, the A. Quincy Jones Plan envisioned the campus as an introverted environment/oasis surrounded by parking lots… Taking advantage of grade changes on the site, much of the campus core was developed with two circulation levels…., the 1967 plan called for a double tree canopy by planting tall eucalyptus trees alongside floral trees of a lower stature. The result can still be observed in the campus, where these eucalyptus trees provide a dappled shade backdrop to many of the campus buildings. [3]

[4]

The significance of the landscape is a culmination of the natural environment, as well as Jones' views on aesthetics and nature. Jones was raised in the neighboring city of Gardena during the 1920's, which historically has had a strong Japanese influence. The Japanese influence on the city of Gardena goes back to the early 20th century- when thousands of Japanese began settling the Los Angeles area, influencing education, economics and agriculture: unfortunately[sq1] in 1942, with the beginning of World War II, the Japanese population in the city of Gardena as well as other cities were put into concentration camps[5]. The imprisonment of the Japanese population was decreed by Executive Order 9066, which was authorized by President Franklin Roosevelt on February 19th, 1942[6]. Directly and indirectly (in the case of Jones) the Japanese community has had a strong influence on the development of the CSUDH campus, and its gardens. As earlier Jones grew up in the neighboring city of Gardena, and according to the CSUDH 2009 Master Plan, Jones' work reflects his childhood in Gardena where he learned to respect nature/environment and was also "introduced him to a Japanese aesthetic of beauty"[7][sq2] .

1. SBS building viewed from the southwest. Photo by Luis Candelario

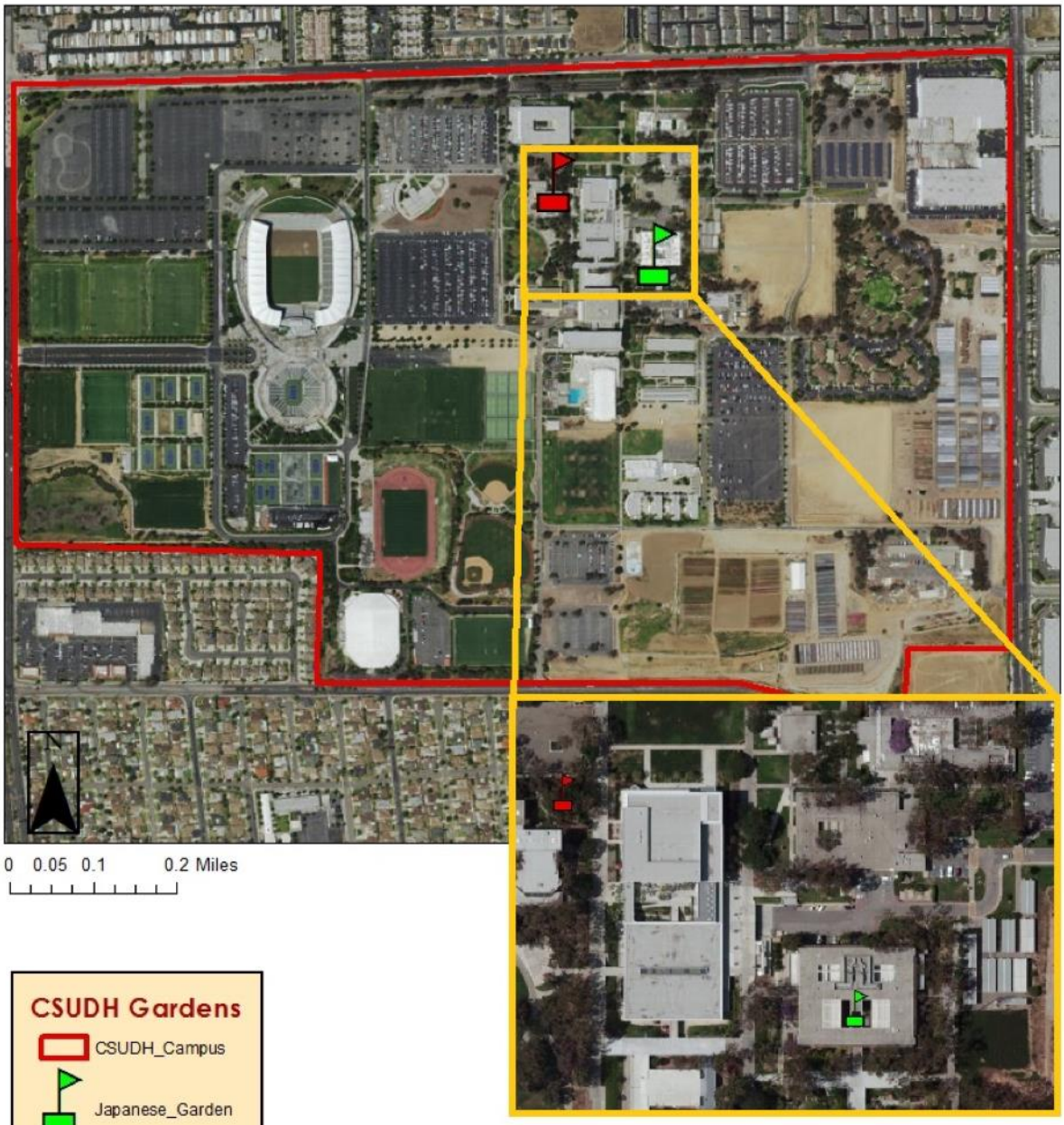
2. Photo of campus outline 1963 pre construction purchased from https://www.historicaerials.com/ .

Analyzed by Luis Candelario

3.Photo of campus outline 1973 post construction purchased from https://www.historicaerials.com/ .

Analyzed by Luis Candelario

CSUDH Gardens



This Map highlights two gardens on the CSUDH campus. The Japanese Garden shown with a green flag in the SBS building and the Fairy Garden shwon with a red flag east of the Locker Student Union.

Map by Luis Candelario
5/11/2017

Map by Luis Candelario made on using ESRI ArcMap 10.3.1

Japanese Garden

At the time of the construction of the campus in 1972, there was a movement in the Japanese community to gift traditional Japanese gardens to public building. That movement would eventually reach CSUDH and lead to the creation of the Japanese garden. The Japanese garden is located on the first floor of the Natural and Behavioral Science building (refer to map), and consists of a traditional Japanese teahouse façade with traditional Japanese landscaping as shown in photos 4 and 5.

The story behind the construction of the Japanese garden is one that involves a range[sq3] political issues being faced by the local Japanese landscapers over half a decade. One of the key people to spearhead the garden was Donald Hata, who at the time served on the Gardena City Council and was a History professor at CSUDH. During a rededication ceremony on May 1st, 2010, Hata was quoted by CSUDH journalist Joanie Harmon as he recounted how the roots of the garden began with local Japanese gardeners,

> "I learned of the gardeners' commitment to civic engagement when I was a Gardena City Councilman," said Hata. "They donated time and materials generously to beautify city facilities, and constructed Japanese gardens at public libraries and hospitals. I went to them and asked if they would build a garden on my campus, as a symbol of the high value they placed on higher education." (Harmon 2010)

Plans for the garden had to be postponed due to licensing issues which affected the ability of landscapers who belonged to the Southern California Gardeners' Federation[8]. While serving as a councilman in 1975 Hata paints an image of issues being faced at the time in a letter to Taketsugu Takei, Director of the State Department of Consumer Affairs, "…landscape gardening is a highly skilled occupation; and with the recent focus on conservation, ecological problems, and too much concrete vs. too few trees and green spaces in our cities and suburbs, landscape gardeners are a very important group of specialist."[9]. Hata brings to light issues of run-off water and green spaces in cities and the important role that landscapers play.

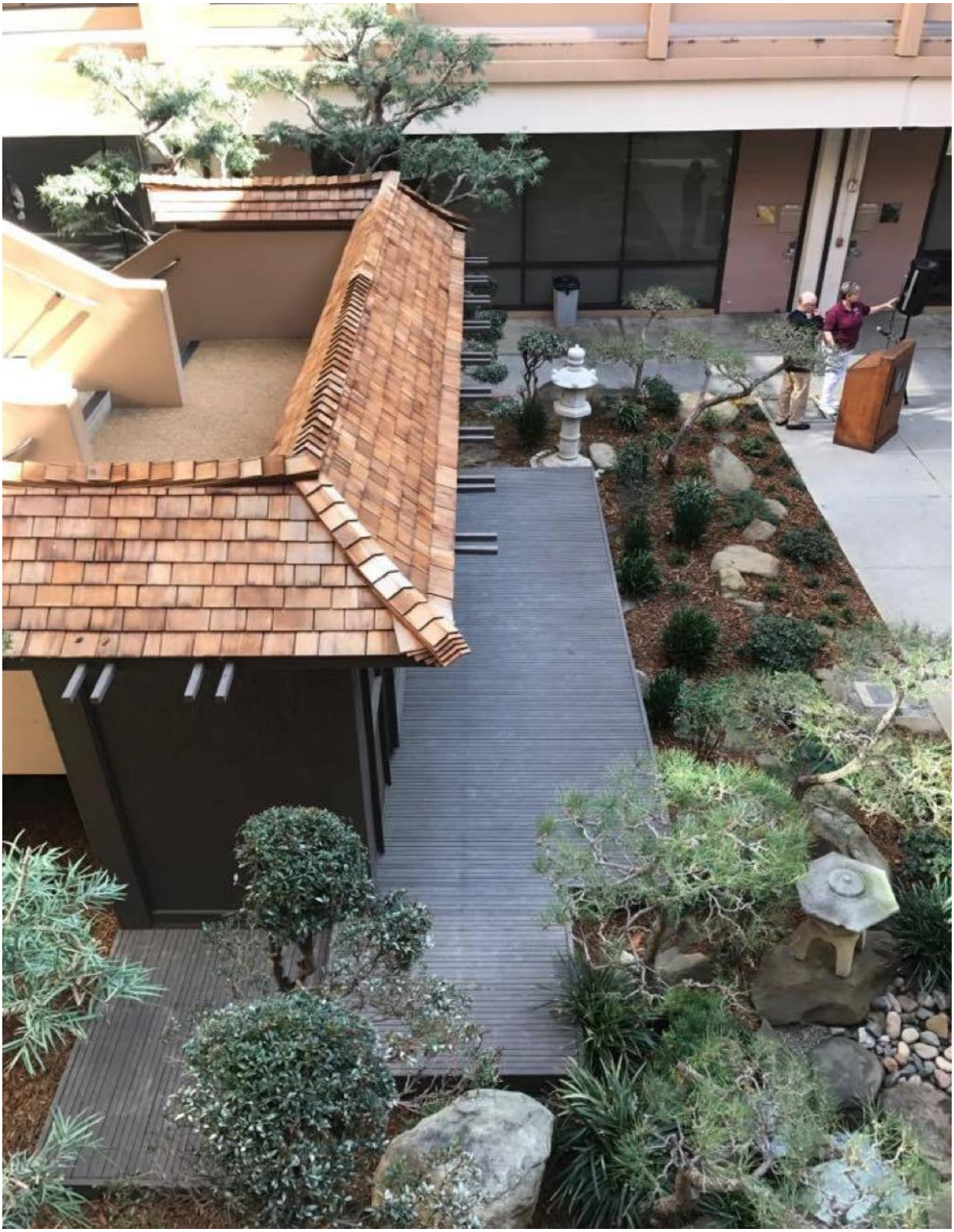
Also during this time frame many Japanese residents in the community were still struggling with the effects of WWII on their psyche and struggling find[sq4] their identity and place in the community. The Japanese garden was a gift from the community that brought the staff, students and community together on campus. The garden was a collaboration between CSUDH, Gardena Valley Gardeners' Association (GVGA), the Pacific Coast and Los Angeles/ San Gabriel Valley chapters of the California Landscape Contractors Association and the Centinela chapter of the California Association of Nurserymen. (Harmon 2007)

The garden itself consists of a tea house façade, covering the stairs that lead up to the second floor of the SBS building, which also has a stage for ceremonies or other activities which blends in with its fountain and its many plants. The list of plants in the garden are: rhapis humilis palm, podocarpus elongate, trained black pines, mondo grass, Eugenia compacta, liriope, baby tear moss, azalea and chrysanthemum[10]. As described in a university printed pamphlet for the dedication of the garden; the building of the garden officially began on February 19th, 1978 with a traditional Japanese purification ceremony on site. The garden was dedicated on

November 19th, 1978. The garden was designed by Haruo Yamashiro, and every part of the garden has a symbolic meaning, it's designed to be an open and welcoming space for the campus and community to enjoy. "The garden serves as a symbol of the spirit of mutual friendship and cooperation which pervaded the project. Just as the evergreen foliage of the garden signifies an enduring relationship with its environment, the close ties between the campus and the surrounding community are perpetuated in the garden."[11]. In more recent years the garden has served as a place of historical remembrance for the gardeners who participated in the construction of the garden, many of whom were incarcerated in camps by due to Executive Order 9066.

On February 9th, 2017, CSUDH held a Symposium on the 75th anniversary of Executive Order 9066. The event opened with a rededication ceremony of the Japanese garden at 1:00 pm. The ceremony began with three rings of a bell by Rev. John Iwohara, of the Gardena Buddhist Church.[12]

4.Japanese Garden 2/19/2017 before the start of the Symposium. Photo by Luis Candelario.



5. Japanese Garden, setting up for the Symposium. Photo by Luis Candelario.

Fairy Garden

The fair garden is located to the south of Welch Hall and to the west of the Loker Student Union (refers to map). This fairy garden has no official name but it does have a purpose; it is a whimsical solution to erosion

and runoff on the hillside. One glance at the garden is all that is needed catch a person's attention. It has been described a peaceful place where people go to meditate or to just clear their minds. In comparison to the Japanese garden it was a smaller project, and its environmental purpose has been overlooked because of its creativeness. The garden can be seen in photos 6 and 7.

There is one news article written by Amy Bently-Smith about the fairy garden on the campus news, and one letter of recognition from Chancellor Timothy P. White[13] which is addressed to Fernando Goncalves, who is one of the three people responsible for the creation of the garden. The garden was created by three of the universities groundsmen. The garden was the brainchild of the late Peter Chance who, with the help of Chris Evan and Fernando Goncalves, repurposed reclaimed material from around the campus to create the garden (Smith 2014).

Mr. Goncalves still maintains the garden and he is the garden caretaker and historian. In an interview with Mr. Goncalves he described Peter Chance and the garden's creation. He mentioned that Mr. Chance was a bonsai specialist who learned his trade while growing up in Gardena; he even donated four bonsaied eugenia from his private collection. There is even a little house in the garden with a sign in front stating, "Peter's House", which Goncalves placed in memory of Peter Chance.

"Peter's House" is located at the base of a coral tree (which can be seen in photo 7), other large trees in the garden are eucalyptus and melaleuca. Those trees predate the garden's creation. Other plants in the garden include clivias, boxwood (which resemble miniature trees) and Peter's bonsaied Eugenia's, plants that provide are baby's tears, dymondia and fescue grasses. The water used for irrigation by sprinkler system uses low grade recycled water. There is also an arroyo that wraps around the hill which directs excess water (either from irrigation or rain) to a storm drain. [14]

6. Fairy Garden. Photo by Luis Candelario

7. Fairy Garden with "Peter's House" in bottom left corner. Photo by Luis Candelario

Conclusion

California State University Dominguez Hills landscape is[sq5] has come a long way since its original master plan. It is a landscape that reflects history and environmentalism. The Japanese Garden and the Fairy Garden are landscapes on the CSUDH campus which add to the universities homely feel. These gardens also show the direct and indirect influence that a community can have on a campus. They also show how the Dominguez identity has been formed by gardens, and how those gardens reflects history. They reflect the history of issues being faced at the time and the mentality that arose from that. The Japanese garden had to overcome licensing issues associated with local landscapers and came about[sq6] because of the Japanese community's generosity. The Fairy Garden faced an erosional issue and the death of its creator and the survival of the garden shows the bonds which are created among the people who work on the campus and their willingness to remember those who influenced them.

Luis (CSUDH Gardens. Class: Ant 495- Independent Study)

Luis Candelario researched the gardens of CSUDH as and independent study with Dr. Janine Gasco. He majored in Geography and minored in Anthropology. A transfer student in Construction Technology and Arts and Humanities from El Camino College, he currently has a career in Carpentry. He graduated in Summer 2017.

Notes

[1] Williams Gegory L. 2010. *California State University Dominguez Hills*. Pgs 7-8. San Francisco. Arcadia publishing.

[2] See Endnote 1

[3]AC Martin. 2009. “Master Plan California State University Dominguez Hills 2009.” CSUDH website PDF pg. 30. Accessed May 10th, 2017. http://www4.csudh.edu/Assets/CSUDH-Sites/FPCM/docs/campus-master-plan/CSUDH_MasterPlan_2010.pdf

[5] County of Los Angeles Public Library. 2017. “What can you tell me about the History of Japanese Americans in Gardena?” County of LA Public Library website. Accessed May 10th 2017. http://www.colapublib.org/history/gardena/faq.html#q5

[6] National Archives. 2017. “Document for February 19th: Executive Order 9066: Resulting in the relocation of Japanese.” National Archives website. Accesses May 10th 2017. https://www.archives.gov/historical-docs/todays-doc/?dod-date=219

[7] ICF Jones and Strokes. 2009. “Master Plan CSUDH Final Environmental Impact Report State Clearinghouse Number 2007031129.” CSUDH website PDF pg. 159. Accessed May 10th, 2017. http://www4.csudh.edu/Assets/CSUDH-Sites/FPCM/docs/campus-master-plan/facilities-planning-eir-september-2009.pdf

[8] Letter from Donald Hata to Mr.Taketsugu Takei. July 20th, 1975. CSUDH Archives: Japanese Garden. Accessed April 2009. Letter describes a bill from California Senator Ralph Dills which called for the creation of a new Board of Landscape Maintenance Gardeners. The bill died in a committee according to Don Hata’s letter. The construction of the Japanese garden was delayed until after the bill was resolved.

[9] Refer to Endnote 7

[10] CSUDH Japanese Garden Pamphlet. 1978. “The Garden: A Dream.” CSUDH Archives: Japanese Garden. Accessed April 2017.

[11] CSUDH Japanese Garden Pamphlet. “Community-Campus Japanese Garden.” CSUDH Archives: Japanese Garden. Accessed April 2017.

[12] Personal observations made by the author on February 19th, 2017.

[13] Letter from Chancellor Timothy P. White to Fernando Goncalves. December 10, 2015. Provided by Fernando Goncalves March 27, 2017

[14] Garden layout and irrigation system described in detail by CSUDH groundsman Fernando Goncalves during a semester long internship from September 2016 to December 2016. An in interview conducted at the Fairy Garden March 24th, 2017.

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