This volume of the *Writing Center Review*, previously known as the *Writing Center Essay Gallery*, presents some of the finest papers written for classes taken by students at Kent State University Stark Campus. Once again, we have a selection of papers that demonstrate skill, originality, and attention to detail, as well as readability, clear organization, effective and appropriate support, and appropriate documentation. These 12 papers were selected anonymously by teams of readers composed of faculty members and Writing Center peer tutors.

Much writing in an academic environment is written, graded, and returned, only to end up in a filing box somewhere. The *Writing Center Review* provides students with an opportunity to share their scholarship with their peers and other members of the Kent State University Stark community. Our hope is that this *Review* will spark conversations, offer models for student writing, and encourage other students to submit their work for consideration next year.

The *Writing Center Review* is sponsored by the Writing Center at Kent State University Stark Campus, and operates with the support of Academic Affairs. A special thanks to everyone who submitted papers; we hope you enjoy seeing your work in print as much as we do. Also, many thanks to those who volunteered as readers and editorial staff:

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In an engaging piece, Dan Blatz uses his own experiences to prove that Deborah Tannen’s thoughts, in her article “I’ll Explain It To You,” on relations between men and women are accurate. Blatz replays for his readers a conversation between himself, his male friend, and two young women. In doing so, he comes to the realization that Tannen offers a number of good points about “how men like to dominate a conversation.”

I’m Not Really Like That, Am I?

Once upon a time . . . Who am I kidding? It was yesterday. I was reading the article “I’ll Explain It to You,” by Deborah Tannen. Now I’m a male and I’ll have to admit, I feel like I’ve been persecuted. She claims men can be macho, dominating, and self-centered with a woman during a conversation. I feel this is a horrible stereotype to give us. We don’t really act like that. To prove my point I’ll use a conversation I had with three other people: two girls and another guy. Now this conversation will clearly prove that we (men) aren’t how Tannen describes us in her article.

Before I describe the conversation, I should begin by talking about some of the situations that led up to it. For instance, I came up to the group of people wanting to speak to my friend. He wasn’t doing much of anything, besides sitting on a couch. So I sat down beside him and I started to have a conversation with him. Now I noticed that the two girls, who were sitting on the couch beside him, were attractive so I began to speak a little more openly. This encouraged the girls to join in (my plan was just starting). They became interested in what we were talking about and began to give their opinions on what we were discussing, which leads into the discussion . . .

The topic of this conversation was relationships. When the girls became interested they asked, “What are you guys talking about?” My friend answered, “Women, and how they play with our minds.” Now see, two guys can have a perfectly meaningful conversation without degrading anyone. Of course, I then asked one of them if she would like to play with my mind, but that just got us off track of the conversation. Oh, no! I just proved one of Tannen’s point’s by making a joke. Not only a senseless joke, but a macho joke.

Tannen claims that men tend to tell more jokes than women during conversation. According to the article, telling jokes can be a way of negotiating status (266). The article also claims that because women do not care if they hold center stage in a group, they are less likely to use jokes as a form of getting their audience’s attention. So, I guess by telling my flirtatious joke, I demonstrated how men like to hold control of a conversation. Unfortunately,
thinking back, that is why I made the remark. It helped me get the girls’ attention and because of it I was able to start my story. Speaking about my story, this is where it started.

I began to talk about a situation that happened between myself and a girl I had met from Walsh University. I went on to tell them what I found attractive about her. I also told them how I hoped I had made an impression on her. I gave a whole story on the evolution of our acquaintance: the minor stuff, like how I went to see the play she was in four times, or how I went out with her and some friends after the last showing of the play just to get her attention. Everyone seemed interested in what I was saying. No one asked me to stop the conversation. So I continued to talk, and then some more, and some more after that.

Unfortunately, I proved another part of Tannen’s article. She claims that men tend to set the agenda by offering opinions, suggestions, and information, while women tend to react, offer agreement, or disagreement (263). I spent the first fifteen minutes of the conversation speaking. All the girls seemed to do was slip in comments such as “Oh, how sweet” or “That’s really nice.” All those comments seemed to do was promote me to keep speaking. The guy, on the other hand, kept offering me his opinions, such as, “I would call her” and, “Go get her number.” Not only did I dominate this conversation, but my friend got in and tried to take over when it got boring. He began giving examples of his relationships that were similar to the one I was speaking of. The two of us sat there and dominated the whole conversation.

Why didn’t the girls say anything? Well, they began to give me hints. For instance, a guy came over and interrupted the conversation at one point. I was never able to regain one of the girl’s attention because of him. This was a distant sign that it was becoming unbearable. They also tried to gradually change the subject by offering certain experiences that had happened to them. One of the girls began to speak of her ex-boyfriend, while the other one told us how she used to stand boys up when they would ask her on a date. I, on the other hand, was too busy trying to spit my story out. I was waiting to speak instead of listening.

This was another point of Tannen’s I proved. I spent the whole time speaking about me. Boy, was I being self-centered. It was I who wanted to dominate the conversation. She claims that men have a tendency to dominate over the women in a conversation (260). I spent most of the conversation in the dominating position. I guess this is something I have to work on.

Well, I guess men aren’t as perfect as I thought they are. Tannen’s article demonstrates a lot of good points on how men like to dominate a conversation. I would have never been able to see what a macho, dominating, self-centered male I was if it weren’t for Tannen. It would be wise for me if I were to start
becoming more understanding to women, especially during conversation; otherwise, people might not want to sit through it. Unfortunately, there are still a lot of males who prefer to dominate a conversation. They prefer to speak about themselves rather then listen for a change. Most of them don’t even know they act this way. They’re in denial, just as I was at the beginning. It is here they should ask themselves, “I’m not really like that, am I?” Then maybe it will become clear to them that they don’t have to dominate a conversation to make it interesting.

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Sarah G. Gravely uses personal experience, information from a locally circulated survey, and medical research, to examine sleep disorders in an effort to help her readers understand the distress sleep disorders cause to sufferers. Gravely calls for more research into sleep disorders on the part of the local medical community. Moreover, Gravely argues that people adversely affected by sleep disorders should have more treatment choices and that insurance should no longer be denied at sleep centers that evaluate patients' conditions, since "choices in treatment are essential to ensuring quality care."

Wake Up, Stark County!
A Local View Of Sleep Disorders

The study of human biology as an intellectual pursuit can become a bit dry. It is sometimes difficult to incorporate the facts and statistics of the textbook into my own life and times. That is why this assignment has interested me so much. Here, I will be able to assess a biological issue—in this case, sleep disorders—and apply its influences to my community. I hope that I am able to impart some pertinent information. Most of all, I want to be able to let my reader(s) know what it feels like to have a disorder that most people know very little about and others denote as unimportant.

Approximately 40 million Americans suffer from chronic disorders of sleep and wakefulness, such as narcolepsy, sleep apnea, and insomnia. The majority of those affected remain undiagnosed and untreated. At the Doctors Hospital Center for Sleep Disorders, 1001 patients are regularly treated for some form of these disorders at the present time (Roman interview). Fewer than 5% of these patients are children and 65% are men over the age of 40. Dr. Frankie Roman, a Board Certified Sleep Specialist, operates this Center. It is the only one available to Stark County residents at this time.

To adequately discuss these disorders, first we must provide a working definition of the individual conditions that the terms denote. Sleep apnea is a cessation of air exchange at the nose and mouth, lasting at least 10 seconds (Williams, pg. 48). Narcolepsy is a disorder of excessive sleepiness. This sleepiness is characterized by brief episodes of lapses into sleep that occur throughout the day, usually lasting less than an hour. Insomnia means an inability to sleep. There are many kinds of insomnia, some chemical, some emotional, and some psychological (Thorpy 104).

In addition to the 40 million people with chronic sleep disorders, there are 20 to 30 million people who experience intermittent sleep-related problems. These may be due to demanding work schedules and/or various other lifestyle

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stress factors. The consequences of sleep disorders, sleep deprivation, and excessive sleepiness can be significant. They could even include morbidity. It has been estimated that, in 1990, sleep disorders and sleepiness cost the United States a minimum of $15.9 billion in direct costs alone (National Commission, vi). This estimate does not include the billions of dollars in indirect and related costs, such as those attributable to sleep-related disasters (e.g. Exxon Valdez grounding, motor vehicle accidents, and diminished productivity in the work place). Some sleep disorders are potentially fatal, while others are little more than an annoyance. Some are life-long, with effects on family members; others are brief and non-recurring. Falling asleep inappropriately can blot out a few minutes of television, or it can cause catastrophic damage to life and property. Patients are often thought to be lazy and can become socially isolated from friends and family.

I am a victim of sleep disorders. I suffer from sleep apnea and narcolepsy. I am a regular patient at the Sleep Disorder Clinic at Doctors Hospital. Here, I am wired to various electrodes which protrude from my head and then am told to go to sleep naturally! My breathing and brain waves are monitored, and I am later informed of how many times a night I have ceased to breathe on my own. This is a frightening and confusing dilemma. But I have learned to cope with its meanings. I have lost a considerable amount of weight to help my snoring problem. This, in turn, has reduced the number of times that my breathing stops. A breathing machine sits in my closet. I have used it at night to insure that I will have a morning. Thanks to the weight loss, I am no longer dependent on it for every breath. But these are things that I can handle. I can control, to some extent, the factors that exacerbate my apnea. The same cannot be said for the narcolepsy. I am on several different medications which help me stay awake throughout a normal day. They don’t work as well as I would like. The results can be humorous. Most of the time I have difficulty seeing the funny side. People think that I am just getting too old to hack the college life. I often get home from class, only to find that my notes don’t make any sense. I am afraid to close the door to my office. I may fall asleep and not hear a client at the door. How would that look? Until now, I assumed that the people surrounding my daily life knew about my condition and were understanding. Boy! Was I wrong!

My primary question for the research part of this assignment was, “How much is known by the general public, in the Stark County area, about sleep disorders, and are they considered a legitimate handicap?” I distributed questionnaires (Appendix A) to people at three places that I frequent fairly often. For the most part, these are educated people, with a good general sense of world events and local matters. The places where these questionnaires were given were the Job Training Partnership, SCCAA Head Start, and the Peoples Missionary Baptist Church Adult Sunday School Class. This encompassed approximately 65 people with 58 respondents (perhaps the other 7 people fell asleep!)
Of the 58 people questioned, 49 know me personally. Some of them have known me all of my life. Still, when asked whether they knew anyone with a sleep disorder, the majority (46) answered negatively, including my employer. All but two of the respondents confessed little or no knowledge of sleep disorders and thus they did not consider them a handicap. I did not talk to these respondents in depth following the questionnaire. Most of those who asked me the reason for the survey were shocked to learn that I was part of the subject matter. I can only guess what they must have been thinking when I fell asleep in business meetings, school programs for my grandchildren, and prayers for the sick!

The results of this experiment led me to investigate the availability of information in our area concerning conditions like mine. I found there to be very little available for access for the general public. The Doctors Hospital Center has a monthly support group which meets to help Center patients deal with the issues and problems that confront them after their diagnosis. There is no other group in existence to help patients or their families with these matters. Kent Stark has several options available to me as a handicapped student. Before each semester, Disabled Student Services gathers the textbooks that I will have assignments in and contacts the professors for their syllabi; a student then reads each assignment to me on cassette tape. This has been immeasurably helpful. However, where classes require computations—formulas, for example—I am usually unable to attain my usual 3.0 GPA. I am grateful, however, for the aid the University does offer.

The only other significant reference that I found for sufferers of sleep disorders in this area was a Web site formulated by Doctors Hospital. However, when I attempted to access the site, I was informed that I did not have the correct authority to access. In my subsequent interview with Dr. Roman, he was as perplexed as I was about this. He and his staff are not directly responsible for the information on the site and, as such, he could not tell me why it was unavailable to a patient at the Center.

Overall, I was disappointed at the amount of information available to me and my family. My children and siblings could certainly benefit from articles in the media and/or library displays on a subject that so deeply and daily affects their lives and the life of someone they care about. But, most of all, I was disappointed to learn that so many people have no idea what I go through just to keep going. I am not a complainer, so they probably would never learn it from me. I am troubled about what some of my friends and business acquaintances think about my inability to pay attention or even to stay awake when it is important that I do so. I feel like I have one of those orphan diseases that you hear about on the national news. No one has ever heard of it, and no one cares to know.
On a more medical level, there should be more than one clinic available to patients of this type. Should I become unhappy with the treatment I receive at Doctors Hospital, my only alternative is to travel as far as Columbus for another consultation. You know I can’t stay awake for that!

It is, or should be, always troubling for any patient to know that his/her choices are limited to the doctor s/he has right now. Choices in treatment are essential in ensuring quality care, and a competitive environment keeps everyone involved on his/her toes. The 1001 patients of the Sleep Center are being denied that insurance. This is not only sad; it is sinful. I hope that someday soon we will have more freedom of choice at a nearby hospital or clinic. I also hope to see more in the local media about apnea, narcolepsy, and insomnia.

APPENDIX A: RESEARCH QUESTIONNAIRE

1. Do you know anything about sleep disorders?
2. What do you know about sleep disorders?
3. Do you consider sleep disorders a serious problem?
4. Do you know anyone with a sleep disorder?
5. Do you have any coworkers with sleep disorders?

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Roman, Frankie, M.D., Telephone interview, November 1997.


A collaborative effort by Christine Hiner and Karen McDonald, "The Spread Eagle Tavern" offers a unique look at a historical landmark that currently operates as a four-star restaurant. Hiner and McDonald cover everything from how to get there, to the quality of the food, to a late night walk around the town of Hanoverton. In doing so, they allow the reader to journey with them into another time and place and to delay "the inevitable return to the twentieth century."

**The Spread Eagle Tavern**

Our journey began with the setting sun at our backs as we left Canton on Route 30. The fading sunlight illuminated the few houses and dormant farmland as we drove through several sleepy little burgs on our way to Hanoverton. Forty minutes later, as the last rays of sunlight lit up the sky, we arrived at Plymouth Street and turned left into another century. Just past the gateway of churches, the Spread Eagle Tavern & Inn was visible. Although the tavern is an imposing three-story brick building from a bygone era, the back entryway is an inviting single story of rough-hewn wood, which is heated on cold winter evenings. The tavern was originally constructed in 1837 by William Rhodes to accommodate the traffic of the Sandy & Beaver Canal and has only recently been renovated into its current standing as a four-star restaurant.

As dusk settled in around us, we stepped through the foyer into the tavern itself. After giving our names to the cordial hostess, we turned with interest to the display of commendations which the restaurant has received in the seven years it has been open. From some of the articles exhibited on the wall, we learned some of the history of the tavern. The Spread Eagle thrived from 1837 until the railroad went through Ohio in the 1850's, taking almost all of the business from the canal and, subsequently, the Spread Eagle. The tavern was kept open by the second owner, Oliver Nicholas, into the late 1800's, but eventually it was forced to close. After nearly a century of being used as a private residence, the Spread Eagle Tavern was bought for $55,000 by Peter Johnson and his son David. The Johnsons oversaw the meticulous twenty-two month restoration, which included extensive historic research and acquisition of many antiques as well as major reconstruction. For this great effort, the Johnsons are now rewarded with a beautiful and successful four-star restaurant which has been praised extensively in the area's newspapers and magazines.

Turning away from these accolades, our attention was drawn to the large wrought-iron gate which guards the stairwell leading down to Gaver's Raths Keller. On the nights when there is a wait to be seated, the rathskeller offers a unique atmosphere for its patrons to relax in before, or even after, dinner. Some of its engaging features include a full-service bar, hors d'oeuvres, and

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12-foot vaulted brick ceilings. The bricks used to build the rathskeller came from Gideon Gaver's old wine cellar and were reconstructed in their original design. Enclosed in the hand-chiseled stone walls of the rathskeller are several intimate tables at which patrons can sit and enjoy live piano music on Saturday nights. Also included in Gaver's is the only existing portion of the slave tunnels that once ran under the tavern and connected it to several other buildings on Plymouth Street. Five tables are set in the tunnel for those who are interested, but our reservations were for another room.

As we followed the hostess through the barn room and the Patriot's Tavern Room, we were immersed in their rustic, Colonial decor and candlelit ambience. These rooms are decorated to make the diners feel as if they are frequenting a tavern in the mid-nineteenth century. The open-hearth fireplaces which host functional ovens, the dark, rough-hewn wooden paneling, and the sconces bearing lit tapers all contribute to the feeling that these rooms somehow not part of this century. A few antiques on display in the rooms also add to the historical feeling. In the Patriot's Tavern Room a 1779 Cowpens, South Carolina Revolutionary War battle flag is flanked by portraits of Jefferson and Washington. The barn room offers three six-person booths that were once the horse stalls in the original barn. Only the attentive servers and immaculate table service reminded us that we had not stepped through a temporal gateway, but were merely beneficiaries of a carefully crafted atmosphere. From the Patriot's Tavern Room, we continued our journey across the uneven plank floor into a narrow hallway. Along one side of the hallway runs a staircase that leads either down to Gaver's Rathskeller or up to the William McKinley Room on the second floor. The end of the hallway, dominated by the original entrance which is no longer used, offers only two choices—either turn left or right. We followed the hostess to the left and entered the Barbara Bush Room.

Bathed in a rosy glow from the combined effects of the pink walls and candlelight, the Barbara Bush Room is much more elegant than the barn room and the Patriot's Tavern Room. Occupied by only three tables, this room is also much more intimate then the other two rooms. The hostess showed us to a table for two by the windows looking out onto Plymouth Street. Across the street is a house of the same period as the tavern, so the atmosphere is continued in the view from the windows. The fireplace in the Barbara Bush Room, one of five functional fireplaces in the tavern, and the strong, cream-colored woodwork give the impression that while the barn room and Patriot's Tavern would have served the common traveler, this more elegant and intimate room was reserved for those of higher standing.

In addition to the formal William McKinley and Barbara Bush rooms and the rustic Patriot's Tavern and "barn" rooms, the Spread Eagle has three other dining rooms to choose from. Upstairs, the Hanna room, named for Marcus
Hanna, the founder of Lisbon, Ohio, offers a subdued dining atmosphere as well as a commanding view of the surrounding buildings and Plymouth Street. Below the Hanna room, the Hanover Room is a combination of elegant and rustic with its pale blue plaster walls and rough-hewn wooden crossbeams. This room is also quite intimate, containing only a handful of tables for couples and foursomes. For larger parties, the Taft Room is available. This room, while smaller than the others, offers a larger table at which a party of several people can be seated comfortably. Displayed on the pink and white pinstripe wallpaper in this room is an autographed portrait of President Taft that his grandson donated to the restaurant. The Hanover, Taft, and Barbara Bush rooms all form a circle with the kitchen because these rooms are part of the original saltbox house that was constructed in 1820. When the Spread Eagle was built, it connected the barn and the saltbox, resulting in an eclectic combination of rooms, hallways, and stairwells.

No matter what room they dine in, patrons are welcome to relax in the Ascher Benjamin Room after dinner. Ascher Benjamin was the famous architect whose structures inspired the design of the Spread Eagle Tavern. Located across the hall from the Barbara Bush Room, this inviting sitting room is reminiscent of a nineteenth-century parlor. The genteel furnishings in this room include a colorful sofa and two wingback chairs, illuminated by the soft glow from the fireplace, chandelier, and small reading lamp. The most eye-catching feature of this room, however, is the tiling encompassing the hearth. Though not original, these tiles are quality reproductions of the pictorial tiling popular in the early centuries of this country.

As we took in our surroundings before dinner, we noted that much of the elegance of the Spread Eagle is subtle and graceful. The table service in the Barbara Bush Room, for instance, is simple, but the white linens and ivory china speak of a very refined simplicity. After a member of the wait staff filled our water glasses for us, we settled into the task of deciding which of the enticing foods on the menu to indulge in.

Browsing through the leather-bound wine list, we saw that it has an extensive selection with something for every wine drinker’s palette. After ordering two glasses of wine, we turned our attention to the equally impressive leather-bound dinner menu. The first decision that had to be made was about the appetizers. Since the Spread Eagle offers everything from portabella mushrooms to escargot, it was a difficult decision, but we finally selected the sautéed shrimp in garlic with chardonnay and cream and the whole lump crab cocktail with remoulade sauce. Once that was decided, we began the task of choosing our entrees. After some deliberating over the duck breast au poivre over wilted spinach, the prime rib, and several other gourmet offerings, we selected the seasoned grilled haddock, which was one of the evening specials, and the sautéed rock shrimp in garlic cream over fettuccine. By the time we
made these decisions, Ryan, our exceptional waiter, brought us our appetizers and fresh baked bread, which is prepared in the hearth ovens of the Patriot’s Tavern. Slowly, we savored every bite because the Spread Eagle has an environment in which it is a pleasure to linger. After the appetizers were completely enjoyed and carried away in the continental serving style, our dinner salads were brought out. When the food was delivered to our table, we realized even though the entrees are in gourmet portions, neither of us would leave the establishment hungry. The haddock was served slightly breaded, but with an exceptional flavor, and came with a medley of freshly prepared vegetables. The same vegetables accented the rich garlic sauce and shrimp over al dente fettuccine. In addition to everything else, the Spread Eagle Tavern has a fabulous dessert menu. Besides the Kentucky Derby pecan pie and almond cheesecake that we sampled, there were also chocolate decadence, candy apple pie, and creme brulee.

When our meal was over and the check came, we were not surprised at the bill. After all, prices are not something to worry about when choosing an establishment like the Spread Eagle Tavern. To make the most of the evening it is best to plan to ignore them and order whatever exquisite item catches the eye. However, since it is nice to know in advance an estimation of what an evening will cost, the prices range from $15 to $25 for most of the entrees, though the lobster at market value was $36 the evening we were there. In order to truly experience the Spread Eagle Tavern at its best, we recommend dining on a Saturday evening. Though the tavern is quite busy and reservations are strongly suggested, when the rooms are full of patrons enjoying themselves, the Spread Eagle is at its most engaging. For those who would like a quieter dinner, Friday evenings are bit slower, but Gaver’s Rathskeller is not open, so the tavern cannot be fully appreciated. The tavern also offers a lunch menu ranging in price from $4 to $12. This menu includes some entrees as well as soups, salads, and sandwiches. No matter what the night, the tavern offers just as much, if not more, with its atmosphere than with its food.

Another attractive feature of the Spread Eagle is its six stately guest rooms. Prices of these rooms range from $75 to $150 for a night, depending on the style of the bed and whether a private bath is included. Though the rooms have an historical appearance, they do include modern amenities such as private phones, televisions, and air conditioning to maintain the ultimate in comfort for the guests. On top of its queen-sized bed and private bath, the Thomas Jefferson suite offers its guests a ghost story. The legend surrounding this room involves Olivinia, the sister of the first owner, and her tragic fate. Olivinia had left home to gain fame and fortune on the stages of New York. Unfortunately, Olivinia was not a success, so she came home to Hanoverton and lost her mind. Her brother and his wife took care of Olivinia, basically confining her to her third story, corner bedroom. One morning, when Olivinia did not answer her door, they unlocked it to find that she had hanged herself.
To this day, staff and guests claim that Olivinia has still not left her beloved home. Of course, for those who would not like to stay in Olivinia’s former chambers, there are still the Lincoln suite, the Dolly Madison Room, the Martin van Buren Room, and the George Washington and Martha Washington Rooms to choose from.

After we had finished our dinner, we decided to take a stroll along historic Plymouth Street. Besides the Spread Eagle Tavern, twenty-one buildings in Hanoverton are on the Federal Registry for Historic Places, many of which are on Plymouth Street, so there is plenty to see. While the tavern has only one existing slave tunnel, the main attraction along that line is the Robertson house across the street. This big, brick residence on the corner, constructed in 1817, was once a safe house along the Underground Railroad. Also of particular note are the churches near the corner of Plymouth and Route 30. Both the Hanoverton Presbyterian Church (ca. 1900) and the Christian Church (ca. 1859) are well-maintained structures which seem to have come straight out of the heyday of Hanoverton, but they still have regular services for the residents of the town. In addition to these structures, there are also many private residences on the street which, though they have the look of the early 1800’s, have the soft light of televisions and electric lamps streaming out of their windows at night. Since the parking lot for the Spread Eagle is in the rear, we would have missed the experience of walking along Plymouth Street if we had not made the effort. After a superlative meal at the historic Spread Eagle Tavern, a self-guided tour of the whole building and Plymouth Street is an enjoyable way to delay the drive home and the inevitable return to the twentieth century.

Additional Information

Open for Dinner:
  Monday through Thursday  5:00 - 8:00 p.m.
  Friday and Saturday      5:00 - 10:00 p.m.
  Sunday                   12:00 - 6:00 p.m.
Open for Lunch:
  Monday through Saturday  11:30 am - 2:00 p.m.

Directions: I-77 to Rt. 30 East. Follow Rt. 30 for about forty minutes. Just past Kensington there is a sign for the Spread Eagle. One mile past this sign, turn left onto Plymouth Street. At the first stop sign, turn right onto Howard Street. The parking lot will be on the left.

For More Information, call or write:
Spread Eagle Tavern
10150 Historic Plymouth Street
Hanoverton, Ohio 44423
(330) 223-1583


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In this paper written for Her History of Civilization II class, Shelly L. Kannal examines the leadership of Japanese lawmaker Tokugawa Ieyasu Shogun. Carefully explaining Ieyasu’s policies and actions, Kannal also assesses the significance of Ieyasu as a leader. While acknowledging “The Old Badger’s” faults, Kannal also recognizes that Ieyasu “gave practical strategies to the Japanese, promoting the welfare and prosperity of his people for centuries to come.”

“The Old Badger”

A proven lawmaker, Tokugawa Ieyasu Shogun received the nickname “The Old Badger” for his contributions to the prosperity of Japan in the seventeenth century. His memoirs, entitled “Legacy of Ieyasu,” advanced the society of Japan for centuries through the betterment of those who would succeed him. Esteemed twentieth-century scholars, such as George Sansom and Edwin O. Reischauer, explore the success of Ieyasu’s controversial imperial legal codes and the effects they had on the history of Japan in Makers of World History. Through the instructions of Ieyasu and the studies of today’s scholars, it can be established that Ieyasu was, conceptually, a good ruler; however, questions surround his political policies and the effects they had on the influential society of Japan.

Ieyasu promoted a number of leadership principles for government in “Legacy of Ieyasu.” His instructions set forth a governmental structure supported by a number of orders, edicts and codes that regulated the people of Japan through an imperial court of justice. Due to Ieyasu’s strong belief in the power of punishment, his regime supported the idea that “justice” should be delivered through example, and the courts should administer sentences in accordance with this fundamental policy. Finally, Ieyasu’s writings promoted his remaining principles of government through four general themes: Confucian ideals; the roles of benevolence, compassion, and personal conduct in government; the Tokugawan structure of the vassalage; and the Tokugawan cautions on the overt use of the military (72).

Ieyasu focused the first of his principles on the effects of Confucian theories and their relation to the Chinese government. He felt that a good leader’s goal was to establish peace and security throughout society, the very basis for Confucian thought. He spoke of the Confucian idea of parental and ancestral respect, devoting his success to his family. Ieyasu’s views of the relationship between a lord and his vassal emphasized the significance of such a respect, stating the notable lessons of the Chinese ceremonial book, Li Chi, and its lesson of the distinction between a man’s wife and his favorite concubine. Ieyasu valued the faithfulness of his subjects, especially his warriors, because he felt
that any man who could not set apart the distinction between the two women could lead a great nation to its demise (75).

Ieyasu also emphasized the importance of benevolence and good personal conduct in a successful leader. He spoke of the human compassion his successors must take for their subjects, and vice versa, in order to make the country prosper:

If the lord is not filled with compassion for his people and the people are not mindful of the care of their lord, even though the government is not a bad one, yet rebellions will naturally follow. But if the lords love Benevolence, then there will be no enemies in the Empire. (72)

Like any good leader, Ieyasu valued the ideal which urges the "Supreme Sovereign of the Empire" to look upon his subjects not only as followers, but also as children from whom he must obtain support and respect in order to succeed (75). He characterized Benevolence as a distinction between inferior and superior, thus the difference between the unfaithful Tozama Daimyos or "Outside Lords" and the dependable Fudai Daimyos who were his hereditary family (76-77).

According to his third basic principle, Ieyasu stressed the importance of a set structure of vassalage. Ieyasu clarified the inferior and superior concept by stating that if a man is supported by his retainers, he has ultimate control of his country; however, he cautioned that not everyone can be a trustworthy character (72). He stressed the need for constant mobility between the fiefs of the Tozama and the Fudai, stating that this fundamental would allow his successors to control angry lords and unruly vassals merely by their unfamiliarity with their surroundings (73). Ieyasu felt that only the trustworthy should succeed the shogunate, even if the unrighteous subject is the leader's son and successor. Along with this principle, Ieyasu gave "official stipends and rank only if they [lords] conduct themselves properly" (74).

Ieyasu's final principle dealt with the ever-powerful role of the military, especially in the vital trading port of Nagasaki. He cautioned his successors, stating that the role of a military did not always have to end in mortal combat, but if war were inevitable, the sword should be handled correctly, for it is the soul of the warrior. According to Ieyasu, "The right use of a sword is that it should subdue the barbarians while lying gleaming in its scabbard" (73). Ieyasu also stated the importance of rulers keeping level heads and using controlled substances with extreme caution, for those who could not hold their offices responsibly should be "deprived of office and commit suicide" because they cannot uphold their country (73).

In assessing the significance of Tokugawa Ieyasu Shogun as a leader, not only must his principles be taken into account, but also his character, which
ultimately led the nation of Japan into an era of great prosperity. Ieyasu displayed many characteristics not only of a good leader, but also of a strong person. According to his personal memoirs, the factor which drove Ieyasu to succeed was not greed of the position, but the virtue of it: "if we always...declare that it is by learning that emolument comes, we can always attain our purpose" (73). Ieyasu felt strongly about his principles, stating that those who committed injustice would be openly punished in front of all—evoking a sense of fear in his people and his successors—and that even a "son or heir" disobeying his principles would not succeed to the reign (73). Ieyasu’s principles were concrete in his feelings of loyalty among the people, which is extremely important in a good ruler. He felt that all Japanese people should obey the laws of their courts and that even the councils should be treated in much the same way as the common people. His ideas of a strong government even began in the home—the ideal being a good husband supporting his family—for a good home was the basis for a strong country (75).

According to scholar George Sansom in his selection "Tokugawa’s Practical Revolution," Ieyasu even contributed to the minting of gold and silver coins, thus the creation of a monetary system in Japan that would allow trade with other countries as well as internally (78). If Ieyasu had faults, like any other human, they lay in the areas of cultural isolation and development. He and other shogunates believed in establishing monitored trading posts, such as Nagasaki—their "window to the world" which ultimately froze Japan from other cultures. By creating such segregated areas, Ieyasu stunted the growth of individualism in his people, and according to Reischauer in his excerpt, "A More Cautious View," "stifled the normal social and economic development of the country" (84). According to Sansom, Ieyasu also segregated his own community from itself by the separation of the Tozama and the Fudai families. He forced the inferior Tozama, "Outside Family," into the lower middle class by not allowing the same privileges to them, not because of their abilities, but because of their heritage. Reischauer points out the concept of a secret police, or "metsuke," within Ieyasu’s structure. These secret police were part of a system of checks and balances created by Ieyasu to insure the loyalty of the daimyo as well as those within his own government, thus leading to one of the first occurrences of a secret police within a governmental structure (81). Reischauer also notes that the Tokugawa developed a system of rotation, by forcing the daimyo to commit every other year to living within the city of Edo (Tokyo). This excursion was carried out at the daimyo’s expense, and the idea of loyalty was furthered by keeping the daimyo’s family hostage in the city at all times as a safeguard for the shogunate against tyranny (81). Ieyasu supported these principles which helped in creating a separation between his own people. Even though Ieyasu resigned in 1605, after two years of service, his contributions to the political structure of the shogunate were tremendous as well as symbolic of the reign of the Tokugawa family in Japan. According to Sansom, Ieyasu’s resignation proved that the Tokugawa family was to be the
reigning ruler of Japan, and succession of the shogunate was to lie within it (77).

Through scholars George Sansom and Edwin O. Reischauer, and the words of Tokugawa Ieyasu Shogun himself, it is apparent that the role Ieyasu had on the governmental structure of Japan was an important one. Ieyasu proved through his economic and militant principles that Japanese society could become a powerful nation through the succession of the Tokugawa family. This selection in *Makers of World History* proved itself to be both highly informative and insightful into the systematic strategies of Tokugawa Ieyasu Shogun through its use of both the primary source of Ieyasu and the secondary source of modern day scholars, Sansom and Reischauer. Despite the fact that even “The Old Badger” had his faults, Ieyasu gave practical strategies to the Japanese, promoting the welfare and prosperity of his people for centuries to come.

**Works Cited**


An English major, Kelly Kennedy provides her readers with a fine overview of scholarship on William Blake’s use of women. Recognizing the scope of Blake criticism, Kennedy’s review points out the major views of the treatment of the Female in Blake, concluding that a consensus or complete understanding of Blake’s plans will remain out of reach. However, as Kennedy points out, Blake’s work will continue to draw our interest since Blake himself will “continue to breathe ‘Contrariety’ into his own scholarship.”

Attraction and Repulsion

Review of Criticism on
The Treatment of the Female in William Blake
from 1977 to 1995

If William Blake was, as Northrop Frye described him in his prominent book Fearful Symmetry, “a mystic enraptured with incommunicable visions, standing apart, a lonely and isolated figure, out of touch with his own age and without influence on the following one” (3), time has proved to be the visionary’s most celebrated ally, making him one of the most frequently written about poets of the English language. William Blake has become, in a sense, an institution.

“Without Contraries is no progression. Attraction and Repulsion, Reason and Energy, Love and Hate, are necessary to Human Existence,” wrote Blake in The Marriage of Heaven and Hell. Perhaps his most famous line, these words are the connecting thread through all of Blake’s work, from The Songs of Innocence and Experience to Jerusalem. But what those words mean has been a point of contention throughout the years. What does that mean for the Male and the Female who are at the center of his work? If they are Contraries, then what does the Female in Blake’s work represent? Just what did Blake mean? And from where did his ideas and perceptions spring?

In 1977 Susan Fox addressed these questions in her well-renowned essay “The Female as Metaphor in William Blake’s Poetry.” As the first literary critic to comment on Blake’s inconsistencies in his treatment of the Female, Fox explores the progression of the extended metaphor throughout the course of his career. She explains that Blake’s vision of the Contraries became more clear to him as time went on; therefore, the contradiction lies in his earlier views of the Female, identified with weakness and failure, and his later attempt to rescue the Female element of the Contraries from this taint. Fox’s early essay creates a sense of continuity of criticism; her essay seems to be the most frequently referred to in essays and articles pertaining to the same topic.
In his essay “Blake: Sex, Society, and Ideology,” David Aers follows Fox’s thread that Blake’s attitude toward the Female shifts, but explains that “the case is far more complicated than a matter of authorial incoherence or change of mind” (33). Aers offers a psychologically-based exploration of Blake’s treatment of the Female and the conventional views of women in the society of which he was a part and concludes that Blake could not escape the popular male supremacist tradition. In opposition to this approach, Mary Lynn Johnson, in her essay “Feminist Approaches to Teaching” argues that “in a century when no one . . . fully escaped the fourfold grip of father, priest, king, and God, Blake stands out as one of the few writers who understood the pervasiveness of this patriarchal power alignment and resisted its influence” (58).

Another critic who discusses the shift in Blake’s treatment of the Female is Brenda Webster, whose article “Blake, Women, and Sexuality” considers Blake’s shift in his treatment of the Female a result of his “increasingly negative attitude toward sexuality” (209). Webster explores Blake’s fear of the “Female Will,” and how it affects his images of women.

Dealing with the subject of the shift in the treatment of the Female, yet from a different angle, in his article “William Blake’s ‘Female Will’ and its Biographical Context,” Robert N. Essick notes that the shifting treatment of the Female in Blake’s work was a result of interaction with women the poet knew; this, Essick contends, influenced Blake’s treatment of women in general. Blake’s wife, Catherine, the wives of Hayley and Butts, as well as Mary Wollstonecraft were used as models for the women in his work. In his piece “An original Story,” Nelson Hilton examines the parallels between the life and work of Mary Wollstonecraft and Blake’s Visions of the Daughters of Albion.

Focusing more on the treatment of the Blakean Female than on the shift in Blake’s thought pertaining to the Female, Alicia Ostriker suggests that “Blake’s vision goes beyond proposing an ideal of dominance-submission or priority-inferiority between genders” in her essay “Desire Gratified and Ungratified: William Blake and Sexuality.” Ostriker goes on to explain that Blake often wishfully imagines that the female can be re-absorbed by the male, be contained within him, and exist” (163). Margaret Storch points out that Blake is “not simply antagonistic to women” but that in his work there is “a striking polarity in his response” (xiii) to them in her book Sons and Adversaries: Women in William Blake and D. H. Lawrence. Blake, she contends, in his words as well as in his engravings, showed a certain fear of the Female Will; to eliminate that threat, “female figures are assimilated to the point of absorption: they are no longer threatening because they no longer have independent existence” (96).

Commentary dealing with the treatment of the Female in particular works of Blake includes Camille Paglia’s book Sexual Personae, in which she examines the Female in Blake’s Songs of Innocence and Experience and decides...
that, metaphorically, the Blakean Female is nature personified; K. D. Everest's "Thel!'s Dilemma," in which three readings of Blake's Book of Thel are examined; Gerda S. Norvig's feminist interpretation of the Thel character in her article "Female Subjectivity and the Desire of Reading in(to) Blake's Book of Thel; Brian Wilkie's book Thel and Oothoon; and Eugenie Freed's book A Portrait of His Life: William Blake's Miltonic Vision of Women, in which she disagrees with the earlier feminist perspectives on Blake's treatment of the Female. Freed feels that Blake was extremely revolutionary for his time in his concept of gender and his sensitivity to the Female. According to Freed, "the male in Blake's apocalyptic consummations also ceases to exist independently," and that "male as well as female sexuality is dispensed with when the dynamically opposed contrary forces...unite" (123).

Demonstrating a perpetual fascination with the treatment of the Female, sexuality, and gender in Blake's work is the plethora of dissertations written in the last ten years on this subject. In Frances Marilyn Bohnsack's dissertation "William Blake and the Social Construct of Female Metaphors," the author examines Blake's use of male and female metaphors as social commentary as well as his own conflicts, attitudes, and observations as they are demonstrated and illustrated in his mythology. Peter Georgelos discusses the split-metaphor of the female in his dissertation "Mother Outline: A Critique of Gender in Blake's Aesthetics and 'The Four Zoas'." B. K. Founce looks at Blake's treatment of the divine marriage "a sacred union of (male) self and (female) other" in his dissertation "Shadows of Desire: Feminine Discourse in William Blake." Gerald Webster Chapman, Jr. examines the ways William Blake, James Joyce, and Thomas Pynchon responded to the feminism of their times in his dissertation "Anxious Appropriations: Feminism and Male Identity in the Writings of Blake, Joyce, and Pynchon." His discussion includes the previously discussed connection between Blake's Visions of the Daughters of Albion and the feminism of Mary Wollstonecraft. Marc Kaplan, whose dissertation advisor was the highly-acclaimed feminist literary critic Anne Mellor, discusses sexism in the work of Blake in his dissertation "Weeping Woman/Weaving Woman: Gender Roles in Blake's Mythology." "My contention," the author explains in his dissertation abstract, "is that sexism is not incidental to Blake's system, but fundamental: the poet anchors his mythological universe in a hierarchical, male-supremacist notion of gender." Glen Brewster takes popular perspectives of gender roles and "analyzes Blake's relationship to his historical context and the discursive traditions about gender roles that he inherited" in order to explain what he calls "the vision of possibility for reformed social relationships" that Blake examined during his career, in his dissertation "Severe Contentions of Friendship: Gender Roles and Reconfigurations in Poetry of William Blake."

As demonstrated, there is a superabundance of Blake criticism, and Blake himself has become a sort of institution. The treatment of the Female in Blake’s work, why it’s there and what it means, will be resolved as soon as Blake becomes less complex, or rather, never. His personality and beliefs are still an enigma and his work still dense and ambiguous; thus regardless of dissections and examinations, Blake will continue to breathe “Contrariety” into his own scholarship.

WORKS CITED


This piece by John Laney grew out of an assignment for his Argumentative Prose Writing course that asked him to create a dialogue between two or more characters. The dialogue was required to have a clear claim or thesis, followed by reasons for the thesis, as well as evidence for those reasons. Laney's goal is to persuade his readers to understand that neither Logos nor Pathos goes "very well without the other."

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**The Harmony of Logos and Pathos**

*This dialogue occurs sometime during the first quarter of the 19th century. The literal action takes place in Lowell's garden on a pleasantly warm, Saturday afternoon.*

Lowell. Do I perceive tiny tremors emanating from the terra firma beneath my feet or are those the weighty footfalls of my corpulent companion Paschalis?

Paschalis. Correct the second time, my oldest and dearest friend.

Lowell. Ah, Paschalis. As Lisbeth's child, my heart did leap within my breast the very moment my nostrils had feasted upon the pleasantly sweet scent of thy cigar.

Paschalis. 'Tis good to see you as well, Lowell. 'Tis a wondrous, glorious day for stimulating conversation.

Lowell. A sentiment with which I could not more wholeheartedly concur.

Paschalis. I have earnestly pondered the subject of our previous intercourse, and feel I am now adequately prepared to discuss with you why the use of pathos in argumentation is much more effective and desirable than the use of logos.

Lowell. I shall warn you ahead of time, Paschalis, that my intention is to oppose you. I believe the use of logos superior in all instances, and no amount of petty pragmatism shall sway my belief.

Paschalis. Your position is duly noted, my friend. However, prior to the actual discourse, I propose we thoroughly define the area of argument we will be defending, for the sake of clarification.

Lowell. Agreed. With no further ado, I shall grant you the honor of the first exposition.

Paschalis. Ahem. Emotion may be thought of as a variable, innate cognitive response to any given internal or external stimulation. Although not
the same as thought, emotion oftentimes determines the way one reacts to thought. I can tell by the bewildered look glazed upon your face that perhaps a bit of elucidation is in order. Take your wife Coraline, for example. To you, the idea of Coraline is accompanied by the emotions of love and respect. The warts that dot the landscape of her face are not detestable, but rather, adorable. The shrillness of her voice, which some would liken to the sound of a fork grating against a China plate, is symphonic to your ears. Her incessant nagging, which would surely entrust a less stable mind into the delicate care of an asylum, is viewed by you as compassionate concern. Thus, it is my assertion that emotion is the garment dye of notion. A notion enters the mind, whereby it is colored by the emotions we apply to it.

Lowell. An intriguing definition that will require only the slightest clarification. What are you implying, when stating that an emotion is variable?

Paschalis. Emotions, by nature, are fluid constructs. They swirl, pool, and disappear as quickly as an ocean wave into warm, welcoming sand.

Lowell. And you intend to build an argument on such an unstable foundation?

Paschalis. If that were not my earnest intent, would this engaging conversation be taking place?

Lowell. Suit yourself, dear friend. Are you prepared for my definition of logic?

Paschalis. More prepared than for the Judgment.

Lowell. Logic is that pair of spectacles through which we view the world in an ordered, reasonable manner. It separates, categorizes, and synchronizes the information we human beings receive. Whereas emotion befuddles the reason with irrelevancies, logic has no ulterior motive. Therefore, I can honestly say logic is the superior nemesis of emotion.

Paschalis. My feeble mind could not conceive of a more well-put definition. Would you now agree that with the subject matter thoroughly defined, we should proceed with reasons and evidence for our individual claims?

Lowell. Indeed. I propose we deliver two reasons for our claims, with each reason being founded by one piece of observable evidence, followed by an opportunity for rebuttal.
Lowell.  My first assertion is that logic's ultimate goal is the revelation of truth. I believe your nephew Dyson would serve as a perfect illustration. Just as he uses his surgeon's scalpel to gently dissect the flesh, in order that a proper diagnosis may be given, so too does logic when it is applied to any given notion. Logic strips the notion of all superfluous variables, leaving the notion in its basest form.

Paschalis.  You've spoken truly, Lowell. However, I have but one minor query.

Lowell.  Speak freely, dear friend.

Paschalis.  If it is your honest assertion that logic is a revelator, I shall also understand you to believe that emotion cannot serve as a harbinger of truth?

Lowell.  You may indeed. Well, I mean . . . perhaps you may. All right, perhaps you may not. I concur that emotion may serve as a conveyor of truth, albeit a crafty one.

Paschalis.  Thank you, Lowell. Do continue.

Lowell.  As further evidence for my claim, I assert emotions are irrelevant to the decision-making process. Although I may speak for no one other than my humble self, try as they may, emotions have never succeeded in tainting any decision I have ever made.

Paschalis.  I may assume, then, that two years ago, when your daughter Mildred was found with child out of wedlock, that your decision to move her to your brother's manor in Liverpool was based solely on logic and not on a desire to prevent your family from being shamed?


Paschalis.  Remember your logic, Lowell, before saying something you may regret.

Lowell.  Indeed, you have my capitulation. Proceed with your reasons and evidences.

Paschalis.  Well then, my first assertion is that an emotional appeal, as opposed to an appeal based on logic, will increase the likelihood of an action. When we send young men off to wars, we spend little time informing them of the slaughter, butchery, and certain death they will encounter. Rather, by petitioning emotions of loyalty and pride in their country of origin, we override their natural instincts for self-preservation.
Lowell. A noteworthy point, Paschalis; however, one I must refute. Logic may instigate action as readily as emotion. I could persuade a soldier to lay down his life as quickly as you could, simply by informing him of the consequences of his lack of action.

Paschalis. An intriguing comment, Lowell, which brings me to my second assertion: logic lacks spontaneity. Do you recall the magnificent stories told to us by our noble friend, Lord Edmund, upon returning from his adventurous travels throughout India?

Lowell. Indeed I do.

Paschalis. Then I am certain you shall recall the tiger story?

Lowell. Vibrantly.

Paschalis. Unbeknownst to him, as the courageous Lord Edmund had narrowed his sights on a rather large, ferocious tigress, her all-too-cunning mate had apparently done the same with Edmund's hindquarters. As that bloody tiger proceeded to remove the seat of Edmund's pants, do you believe his inspiration to run was birthed out of logic or emotion?

Lowell. That is an exceptional situation and one on which I refuse to comment!

Paschalis. Answer the question, Lowell. Was Edmund's flight a response to emotional or logical impulses? You have an obligation to answer my inquiry to the best of your ability!

Lowell. Logic then, of course!

Paschalis. Nonsense, it was emotion!

A lingering hush descends upon the gardens, leaving only the lush greenery and humid sweetness of the air to stimulate the senses.

Lowell. Perhaps 'twas a bit of both I should say.

Paschalis. 'Tis a balance most precarious.

Lowell. Well, my good man, it appears as though we have wandered all the way back to my home. As we departed, I believe Coraline was preparing some tea and crumpets. Would you care to join me?

Paschalis. Ah, tea and crumpets – an inseparable combination.

Lowell. One doesn't go very well without the other.

Paschalis. Indeed.

Lowell. Indeed.
Laura Lawler uses data collected at the Mauna Loa Climate Observatory in Hawaii to discuss the ongoing debate about rising CO₂ concentration. Many people believe that the rising CO₂ concentration will cause the Earth’s temperature to rise and, as a result, they blindly predict global disaster. Lawler points out the much of this fear is based upon indefinite data, and she takes her readers through mathematical equations in order to explain that the real danger lies in “the misuse of what little information we do have” about rising CO₂ concentration and its connection to temperature changes. Moreover, Lawler suggests that the only thing the data proves is “how little we do know about the actual global processes at work” on Earth.

**Measurement of Atmospheric Carbon Dioxide Concentration**

**Introduction**

It has been hypothesized that rising CO₂ concentration will cause the Earth’s temperature to rise 1.8-6.3°F in the next century. This has been the source of an ongoing debate for some time and headlines much of the news today. Environmentalists and “pseudo-scientists” are quick to shout alarmist claims, and politicians are quick to agree, in essence “kissing the babies of our future”, and those who do not know what to think, simply follow along blindly, frightened and confused by the “doomsday prophets” who preach global disaster. All of this is based on a relatively small and indefinite amount of data and could have the potential to do more harm than what they fear most. While many find truth in these claims, others see no validity whatsoever, saying that it is impossible to predict the chaos that is our climate, where the only constant is change.

This paper uses the data collected at the Mauna Loa Climate Observatory in Hawaii, charting the measurement of change in carbon dioxide concentration in parts per million (ppm), using readings from January of every year starting in 1970 until 1994 (Refer to Table 1; data from Larson et al., 1997).
Table 1. Atmospheric CO$_2$ concentration (ppm) measured in January of each year from 1970 to 1994. Here, "t" represents time from $t = 0$ (1970) to $t = 24$ (1994).

<table>
<thead>
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Results and Discussion

The change in atmospheric CO$_2$ concentration from 1970 to 1994 is represented in Figure 1. Linear regression (a mathematical technique to produce a line that best represents a set of data points) of these data produced a line with the following equation and linear correlation coefficient (r) (a measure of how well the line fits the data points; $|r| = 1$ indicates the best fit):

$$Y = 1.453t + 323.491; r = .997$$

The data in Table 1 are for January of each year only. If the CO$_2$ concentration is measured every 3 months, a different picture emerges. In April of
each year, the concentration averaged \( \sim 2.5 \text{ ppm} \) higher than the concentration found in January (as shown in Figure 1). Data for July were found to be the same as those of January. In October of each year, the concentration was found to be \( \sim 2.5 \text{ ppm} \) lower than those of January and July. These fluctuations are best represented by the following equation:

\[
Y = 1.453t + 323.491 + 2.5\sin(2't)
\]

The graph of this equation is shown in Figure 2. There are several possible explanations for this phenomenon. One could be that roughly \( \frac{2}{3} \) of our planet’s \( \text{CO}_2 \) sinks are found in our oceans. Like our terrestrial vegetation, the aquatic vegetation (mostly Cyanobacteria) may also have seasonal photosynthetic cycles, which directly affect the amount of \( \text{CO}_2 \) measured in the atmosphere. These seasons could directly correspond with or slightly precede the extremes measured at Mauna Loa.

The sine function also shows direct correlation to our seasons of weather. This could be explained by the dormancy period many plants experience in the winter, during which they do not take in \( \text{CO}_2 \). This may then cause a rise in \( \text{CO}_2 \) levels in April. In July, plant life once again flourishes and the \( \text{CO}_2 \) levels begin to plateau and continue to fall to their lowest point as October approaches. With the arrival of the winter months, plants once again enter their dormancy period, and they discontinue \( \text{CO}_2 \) consumption, causing an increase in the \( \text{CO}_2 \) levels once more, continuing the cycle.

Lastly, one other possibility could be that human production of \( \text{CO}_2 \) via the burning of fossil fuels may also fluctuate seasonally. These activities include slash-and-burn deforestation, petroleum-powered transportation, and industry. A combination of these (and possibly any number of other unforeseen factors) more than likely accounts for the annual fluctuations.

We can use the model shown in Figure 2 to predict the \( \text{CO}_2 \) concentration for the year 2000 by letting \( t = 30 \) and plugging it into the above equation as follows:

\[
Y = 1.453(30) + 323.491 + 2.5\sin(2'(30))
\]

\[
Y = 366.842 \text{ ppm}
\]

So, if this pattern continues, the \( \text{CO}_2 \) concentration for January, 2000 will reach 366.842 ppm.

**Conclusion**

The data from this paper show that it is likely there will continue to be an increase in the \( \text{CO}_2 \) levels on our planet. What these or any other data have not
been able to prove is a direct correlation between any increase in temperature and any direct, single cause, such as industry, volcanic eruptions, or a population of more than 5 billion people exhaling CO₂ with every breath (not that we are the only animals respiring on Earth). In fact, a recent study by NASA has shown a slight decrease in surface temperature over the past 20 years. The current danger lies in the misuse of what little information we do have. The potential herein could be to cripple the economies of developed nations, and/or to prevent developing nations from ever reaching their potential. The only thing that seems to have been proven is how little we do know about the actual global processes at work, and this may be something which may not be understood for centuries to come...if ever???

**Works Cited**


![Graph](image-url)
Figure 2. Model of atmospheric CO₂ concentration reflecting annual cycles from 1970 and projecting through the year 2010.
In this critical assessment, Karen McDonald compares the narrative voices of Francis Ford Coppola’s 1979 movie *Apocalypse Now* and Joseph Conrad’s novella *Heart of Darkness*. After a thorough, original analysis of both artists’ use of their respective media, characterizations, and narrative techniques, McDonald concludes that although the artists employ different strategies, they reach similar conclusions about “the black center of the human soul.”

**Willard vs. Marlow: The Differences in the Narrative Voices of *Apocalypse Now* and *Heart of Darkness***

When *Apocalypse Now* finally came to the screen in 1979, it had already gone through so many changes and adjustments that most of the similarities it had once had to *Heart of Darkness* were noticeably absent. The script that John Milius originally crafted took some liberties with Joseph Conrad’s novella, but once Francis Ford Coppola started working with the film, a series of events including casting problems, visionary differences, and shooting difficulties altered what had begun as a modern interpretation of the ideas present in *Heart of Darkness* into a film which so faintly echoes the book that Conrad is not even mentioned in the credits. Much speculation exists trying to pinpoint exactly how and when the deviations occurred. William Hagen observes that

In wanting to improve the Milius script, especially after the Du Long Bridge sequence, [Coppola] turned to *Heart of Darkness* and the somewhat improvisatory method itself. However, by not working out the precise relation of *Heart of Darkness* to the conception of the film in the script form, Coppola insured a less faithful adaptation. (300)

This imprecision on Coppola’s part may have drastically changed the heart of the novella, but it did result in a highly acclaimed motion picture, regardless of the tribulations experienced in the process. Ultimately, the reason for the differences between the story presented on the screen and that which exists in the book is the chasm between Coppola’s and Conrad’s visions. Robert LaBrasca also recommends that we bear in mind that

one work is the product of a single consciousness in reflection, while the other required an army of creative minds, functionaries and drudges, along with $31 million of the world’s resources. (289)

Beyond the different journeys taken to bring these stories to the public, beyond the variations in the settings and periods of the stories, after the audiences have
absorbed the central themes of the movie and the book, after the visions of both Conrad and Coppola are set aside, the real differences between *Heart of Darkness* and *Apocalypse Now* are due to the distinct voices of the narrators.

From the beginning of the movie it is apparent that Capt. Willard is Coppola’s version of Conrad’s Marlow. Though the only character to retain his name in the transition from page to screen is Kurtz, the change of Marlow into Willard signals a major adaptation in the story. Since Marlow is the central character of *Heart of Darkness*, he sets the tone and voice of the entire novella. The same is true of Willard in *Apocalypse Now*. Among the changes that significantly alter the story are the differences in narrative voice, especially the focus on the audience present in *Heart of Darkness*, which is created by the presence of the framework narrator, and the absence of an apparent audience in *Apocalypse Now*.

Conrad’s novella not only tells a tale of greed and power struggles, but it also provides an audience so the readers see how the author expects them to react to Marlow’s tale. The framework narrator opens the book with great, verbose description, but by the end he is succinct in his agreement with Marlow’s worldview. This change, coupled with the occasional interjections made by the four men who hear Marlow’s story, clearly demonstrates Conrad’s intention not only that Marlow’s experience send a message, but also exactly what effect that message is supposed to have.

The framework narrator begins the novella with both a very descriptive and a congenial voice. His attitude is immediately seen in his descriptions of the men on board the *Nellie*. The first man to fall under the narrator’s lens is the Director. This authority figure is thought of “affectionately” and seen as “trustworthiness personified” (Conrad 7). The other passengers are also detailed by the narrator, who sums up their relationship by saying “Besides holding our hearts together through long periods of separation [the bond of the sea] had the effect of making us tolerant of each other’s yarns – and even convictions” (Conrad 7). This sentence relates the group’s ability to humor one another though they may have very different perspectives and opinions. The group’s indulgence is specifically applied to Marlow shortly after the narrator speaks of how tolerant they are of each other. Two passages especially display how the narrator views Marlow:

> He was the only man of us who still “followed the sea.” The worst that could be said of him was that he did not represent his class . . . His remark did not seem at all surprising. It was just like Marlow. It was accepted in silence. (Conrad 9)

The first passage demonstrates the narrator’s opinion of Marlow. While Marlow is seen as a good man, his companions know his faults and understand that he is not perfect. The second passage goes on to prove that the group is
tolerant of him, especially when a remark is "just like Marlow." Obviously, the narrator neither disdains nor dislikes Marlow, but he does not truly understand or agree with him, either; however, the narrator's congeniality is as apparent in the description of Marlow as in that of the other men. This congenial attitude is also seen in how the setting is described.

After introducing the Nellie's four passengers the narrator uses poetic language to colorfully depict the story's setting:

The water shone pacifically, the sky without a speck was a benign immensity of unstained light, the very mist on the Essex marshes was like a gauzy and radiant fabric hung from the wooded rises inland and draping the low shores in diaphanous folds. (Conrad 8)

The attention that is paid to the details of the landscape and the picturesque way in which it is described tell the readers that this narrator is not so preoccupied with inner demons that he cannot take notice of and appreciate his surroundings, which places him in direct contrast to Marlow and his tortured philosophical musings.

From the moment Marlow begins to speak, we can hear the lack of physical description and congeniality in his voice in contrast to the narrator's. It is not surprising then, after reading the entire tale, to find that the narrator ends his framework narrative in a much more succinct and disheartened state than he began it. Instead of a complement to the two and one half pages of descriptive text that open the story, a mere one paragraph closes it. While this short paragraph does contain physical description, the last sentence displays the narrator's change of heart from congenial passenger to Marlow's comrade in cynicism and affliction:

The offing was barred by a black bank of clouds, and the tranquil waterway leading to the uttermest ends of the earth flowed sombre under an overcast sky - seemed to lead into the heart of an immense darkness. (Conrad 76)

Waters that at the beginning of the novella had "shone pacifically," "flowed sombre" by the end; the sky, instead of being "a benign immensity of unstained light," offers "a black bank of clouds"; the "diaphanous folds" become simply "an overcast sky." These changes in how the narrator describes the scene clearly illustrate that the narrator himself has changed, abandoning his lighter mood and joining Marlow in his darkness.

Because of the anonymity of the narrator, the change that he undergoes can logically be applied to Marlow's entire audience. By having the entire group consist of only four men—Marlow and his three listeners—all of whom share the bond of the sea, Conrad draws his readers to the conclusion that these
men have much in common. Though Marlow is the only one with a name, the Director receives enough attention to become distinct, but neither the Accountant nor the Lawyer is outstanding. One of these two characters is the narrator; however, which one is speaking is never revealed. It is this ambiguity that allows us to accept the narrator as the spokesman for Marlow’s audience, thus demonstrating that not only the narrator but the whole group comes to understand Marlow and his worldview. However, that the narrator speaks for all three men is not the only indication that all of them come to believe as Marlow does.

At several points in Marlow’s narrative, his audience interjects comments that demonstrate its opposition to some of Marlow’s tale and his style of telling it. Near the beginning of the story the audience makes several comments about elements of the story. At one point the narrator relates that one voice growled “Try to be civil, Marlow” when he made an editorial comment about the “monkey tricks” they all perform for “half a crown a tumble” (Conrad 36). Marlow’s entire tale is a commentary on their way of life, so it is natural that his audience react against it, just as Marlow himself initially did. The surprise is not that they indulge Marlow and allow him to tell his story. Neither is it surprising that they interject with objections when they feel affronted. What is surprising, though, is that as the story progresses the comments become less frequent; that the men stop feeling professionally affronted and start feeling personally responsible; that they come to understand Marlow’s darkness.

This darkness is not inherent in the events surrounding Kurtz’s death; rather, it is Marlow’s analysis of and comments on those events. Since Marlow’s audience is three men on a boat years after the occurrences he relates, his story is in the past tense. The amount of time that has obviously elapsed also means that Marlow has had time to reflect upon what happened and attempt to make some sense of it. In fact, his story is made up of more images and impressions than actual, clear events, making Heart of Darkness a very personal and emotional exploration into the significance of a very life-altering episode.

Conrad’s use of the narrative framework is the key to understanding how he wanted Heart of Darkness to be seen. The novella was intended to be a commentary on the imperialistic exploitation of Africa, so he provided Marlow with an audience of his fellow tools of exploitation. By manipulating the reactions and thoughts of Marlow’s audience, Conrad supplies an example of how he would like his own audience to react: listen to the story; slowly abandon rationalizations; engage in self-examination; admit responsibility, and understand that the darkness is in each one of us. This technique works well for Conrad, but when Coppola began his film adaptation he discarded the framework narrator and turned to other means of relaying his message.
In adapting the book for the medium of film, Coppola hoped to portray the same message and idea that Conrad imbedded in his novella. By using one of the hottest moral controversies of the time—the fighting in Vietnam—as a substitute for the controversial exploitation of Africa that is Conrad's vehicle, Coppola attempted to show the timelessness of Conrad's observations on human nature. According to Hagen, though, Coppola made the rather romantic assumption—which is, in fact, a misreading of the novel—that experience itself will immediately dictate certain discoveries. He forgets the years of reflection Marlow has given to his experience, the "recollection in tranquillity" that Wordsworth argued must follow "the spontaneous overflow of powerful emotions" if they are to be shaped into art. (301)

By cutting out the framework narrator and depending solely on the images on film to relay his message, Coppola moves the story from Marlow's intimate introspection, related almost unconsciously to his small audience, to Willard's unpremeditated observations of the events surrounding his mission. Though the story is centered around Willard's experiences during the journey up the river to terminate Col. Kurtz's command, we do not see solely through Willard's eyes. Instead we see what happens around Willard, sometimes how other characters react to the occurrences during the movie, and, thanks to the narration added after filming, we hear some of his thoughts. Without the framework narrator Apocalypse Now offers an undistilled account of "the horror" with few meditations and no explicit indication of Coppola's desired effect.

Unlike Marlow, as Capt. Willard travels on his journey into the heart of Col. Kurtz's darkness, he speaks directly to the viewing audience. Within the first nine minutes of the movie, after scenes of fire and battle superimposed over Willard's face, he tells his audience that "I wanted a mission and for my sins they gave me one . . . I t was a real choice mission and when it was over I'd never want another one." This immediately establishes that the tale about to be related has already happened, that Willard is looking back on this mission, just as Marlow does. In a sense, this implies that the heart of the tale will be devoted to exploring why he would "never want another one." What actually happens is not an explicit explanation like Marlow's, but a subtle presentation of important events. It also shows that these experiences have changed him drastically. For an experienced military assassin to say he never wanted another mission proves that something affected him deeply on this mission. His state of mind about the mission is also seen when he says "Everybody wanted me to do it. Even him . . . Even the jungle wanted him dead and that's really who he took his orders from anyway" (2:21). These two quotes, though, are the only places that it is apparent that Willard is looking
back on his mission with any amount of contemplation on the deeper issues. The voice-over narration may be in the past tense with some philosophical musings, but the power of the visual images imposes the present tense on the film.

If Coppola had set up a framework narration, then the fact that Willard is remembering these events would be more apparent; however, since the voice-over seems secondary, the pictures' presence overpowers the words' past tense. *Apocalypse Now* sweeps the viewers along with Willard as he travels deep into the jungle to eliminate Kurtz. As we move up the river with Willard, he may relate his tale in the past tense, but due to the visual aspect of film, Willard's words are not the primary vehicle in relaying the events of his journey. Instead, the narration is merely a supplement to the pictures. Because the audience sees what is happening, without relying solely on the narrator's narrow perception as they must with *Heart of Darkness*, they see a more objective view of the events, without the self-censoring that Marlow allows himself. While Marlow's tale is filled with analysis and attempts at understanding that proffer a worldview to the audience, Willard's story is a more complete depiction of the actual events without the subjective analysis. It may seem natural that film, with its visual as well as audio characteristics, would present a more objective portrayal, but Coppola enhances this aspect by not only how he filmed the scenes, but also in the development of minor characters.

In *Heart of Darkness* there are several passages where Marlow specifically tells his audience that he is editing something out—"No use telling you much about that" (23); "Oh, those months! Well, never mind" (26). There are also many scenes where he does not give much description, leaving his audience to fill in the blanks. Coppola makes full use of the dynamics of film to show what is occurring around Willard instead of having him relate these events with a series of impressions. When Kilgore's cavalry unit attacks a village at the mouth of the Nung River, we do not see the battle solely from Willard's point of view. In fact, Willard is not seen much in this episode of blaring music and dangerous exchange of fire. We are shown deaths and maneuvers from both sides of the engagement, things that Willard could not have seen from his seat aboard Kilgore's command ship (0:30-0:42). Scenes like this make the movie much broader in scope than the book is, with Willard's role as narrator thereby made less significant than Marlow's. When contrasted to a similar scene in the book when "a man-of-war anchored off the coast . . . was shelling the bush," the different styles can clearly be seen. After some minor physical description, Marlow elaborates on the event:

In the empty immensity of earth, sky, and water, there she was, incomprehensible, firing into a continent. Pop, would go one of the six-inch guns; a small flame would dart and vanish, a little white smoke would disappear, a tiny projectile
would give a feeble screech—and nothing happened. Nothing could happen. There was a touch of insanity in the proceed­ing, a sense of lugubrious drollery in the sight . . .” (17)

The “pop,” “little white smoke,” and “feeble screech” that Marlow witnessed from a distance is not so greatly different from what Willard would have seen from his vantage point during the beginning of the air assault. Coppola, though, decided to submerge the film audience in the horror of the battle even though Willard would not see it as they did. This technique, coupled with Kilgore’s “I love the smell of napalm in the morning” speech and the surreality of having Wagner’s “Ride of the Valkyries” as the precursor and background music of the attack, demonstrates to his audience the insanity inherent in such proceedings, while Conrad’s printed word had to explicitly state it as one of Marlow’s observations. Both techniques are effective and relay similar mes­sages to their respective audiences.

Another way in which Apocalypse Now is more objective than Heart of Darkness is in the development of minor characters. As mentioned earlier, the breadth of the filmed scenes dissipates the focus from Willard as narrator. With this in mind, the natural conclusion is that some of the other characters receive attention as well. One of the most telling points is that while Marlow describes the people around him, their names are not important, so, other than Kurtz, their names are not chronicled. In the movie, however, many of the characters have names: Luke at the meeting when Willard gets his assignment; Kilgore; Chef, Lance, Clean, and Phillips on the boat. Along with being named, these characters are developed. They are still only minor characters, but the audience gets to know them. Not only do they add to the storyline, but they also help shift the sole responsibility of eliciting emotions from the audi­ence away from Willard as the narrator. When Clean is shot and killed while listening to a tape from his mother (1:35), the audience feels sorrow without Willard needing to relate how he felt at the time. In Heart of Darkness the audience must be told how Marlow felt and what observations he has before they know how to react. Conrad tells; Coppola shows.

With more characters with which to relay the whole spectrum of emotions, Willard is not the only one we see affected by the trials of the journey. Both Lance and Chef survive to enter Kurtz’s compound with Willard. Along the way we see Chef, who is “wrapped too tight for Vietnam” (0:22), suffer through an encounter with a tiger that has him terrified to leave the boat. The irony is that if he had left the boat with Lance and Willard, he probably would have survived as they did. In Heart of Darkness, it is Marlow that stays on the boat while the Manager and his contingent go onshore to retrieve Kurtz (53). We also see Lance turn to the attraction of the natives’ way of life to escape the horrors he has witnessed in Vietnam. His escape starts with his use of rugs and ends in his participation in the villagers’ ritual sacrifice of the bull. One
step on Lance's escape from his reality occurs just after Clean's death. Here Lance gives in to his desires and joins his voice with the screams coming from shore (1:39). Marlow fights these same urges on his journey, too, but he resists them:

They howled and leaped and spun and made horrid faces, but what thrilled you was just the thought of their humanity—like yours—the thought of your remote kinship with this wild and passionate uproar. Ugly. Yes, it was ugly enough, but if you were man enough you would admit to yourself that there was in you just the faintest trace of a response to the terrible frankness of that noise... You wonder I didn't go ashore for a howl and a dance? Well, no—I didn't. Fine sentiments, you say? Fine sentiments be hanged! I had no time. (37-38)

Marlow tells his audience about resisting the urges. He relates his thoughts on both his desires and his decision to resist them. Willard does neither. He does not have to. By showing Lance giving in to these urges, Coppola removes the need for this type of introspection. By having Lance as a minor character, Coppola allows himself the latitude to show the temptation without having to have Willard discuss it. Once again, Coppola shows while Conrad tells.

The inherent properties of film dictate much of how the story of Willard's descent into darkness is portrayed. Instead of a framework narrator, Willard speaks directly to the viewing audience. Instead of bearing the weight of relating all that happens, Willard's character is supported by a small cast of minor characters. These minor characters help show how the descent affects Willard, plus other important aspects like the insanity of war. All of this frees Coppola from the constraints that Conrad conquered to tell the tale through Marlow; instead, he shows what happens to Willard and also what happens to those around him.

With the fate of the minor characters helping to demonstrate how pervasive the heart of darkness truly is, Coppola is able to apply the change that Willard undergoes to the world at large. This is the same result gained by Conrad with the use of the framework narrative and the anonymity of the narrator. Both artists created works that expound on the black center of the human soul. Though they used different media, different characterization, and different narrative techniques, the results are very similar.
As a student in a class on the history of Stark County, Jill Schott was asked to imagine herself as the director of a project for the Stark County Chamber of Commerce. In her role as Director, Schott's main task was to prepare a brochure of no more than five pages describing the benefits of living in Stark County. Looking to "sell" the place, Schott covers all the areas in an effort to find something of interest for each of her readers. After all, according to Schott, "something for everyone may say it best about Stark County."

**Stark County, A Rare Jewel**

Is relocation in your future? Are you desirous of new opportunities for growth? Would you like to be a partner in progress? If so, Stark County, Ohio, is the place to be.

Stark County is a treasure trove of varied assets. This county, the eighth largest in the state, is a region of great diversity economically, culturally, religiously, and historically. From football to fine arts, Stark County satisfies every taste. Allow me to present a panoramic view of the countless possibilities and opportunities available in this area of northeastern Ohio.

Stark County has an excellent location; large cities such as Akron and Cleveland are within an hour's drive or commuting distance. Yet, a much more affordable lifestyle is within reach for Stark County residents. According to Merele Kinsey, coordinator of research and evaluation services at Kent State University Stark Campus, "the cost of living in Stark County is below the national average, and among the lowest in Ohio." For this reason, families and individuals receive more value for their dollar, and the quality of life is enhanced.

Education in Stark County is a priority. The city of Massillon boasts a beautiful new high school that, with Paul Brown Tiger Stadium, resembles a college campus. Jackson Township's high school and middle school both sport newly completed additions to accommodate the phenomenal growth of this once rural township. Vocational and private schools also serve the varied needs of students. Academic opportunities abound as higher education is readily available on the campuses of Kent State Stark, Mt. Union, Walsh, Malone, Stark State College, and a branch of Ashland University located near Massillon. Residents of Stark County are well aware that education is an important key in unlocking future success and satisfaction and strongly support the learning experience.

Complementing the education system of Stark County is a wealth of libraries and museums. A total of twenty libraries and branches serve the needs
of residents. The McKinley Museum and Discover World in Canton, the Canal Days Museum in Canal Fulton, the Massillon Museum, the Ohio Society of Military History honoring Ohio veterans, and the Canton Classic Car Museum featuring over thirty-five special interest automobiles all provide fascinating opportunities to discover and learn.

For those preferring the great outdoors, park systems with walking paths and "green space" are close to home. Quail Hollow State Park is a great natural retreat just a short drive away. Hikers or bikers will soon be able to explore nature along the canal corridor which is being re-discovered and preserved. Sippo Lake, Meyers Lake, and numerous private lakes offer fishing and boating, popular pastimes for anglers of all ages. Canton and Stark County have been dubbed "America's Playing Field." Here one may enjoy year-round sports activities: the Canton Crocodiles baseball team, Little League teams, soccer and t-ball for the youngest athletes, and nationally renowned high school football rivalries. The Canton-Massillon region is the cradle of professional football, as well. Several legendary sports figures had roots in the Stark County area, including Paul Brown and Lou Groza. The Professional Football Hall of Fame, honoring football's greats, is Canton's leading tourist attraction. Many golf courses are available across Stark County, both public and private, including Glenmoor, a signature golf course designed by Jack Nicklaus. Yes, this county is truly a sports mecca for fans of every game.

Here in Stark County, churches of all faiths are at hand, both denominational and non-denominational. Many are beautiful structures architecturally: St. Mary's Church in Massillon and St. John the Baptist Church in Canton are two impressive Catholic edifices. People of diverse cultural and ethnic backgrounds practice their religious traditions and live side by side in Stark County: St. Haralambos and Temple Israel in Canton are two examples of this cooperative effort.

Historically, we are fortunate to live in this county which is rich with priceless gems from the past. In Canton, President William McKinley's National Memorial, the restored Saxton House and the Palace Theater reveal much about life in the early twentieth century. Glamorgan Castle and the Mabel Hartzell Home, both in Alliance, are listed on the National Historic Register. Massillon's rustic Spring Hill Historic Home and the Romanesque mansion, Five Oaks, allow an accurate look into the origins of this city, which grew up along the canal corridor. The little village of Navarre prides itself on preserving pieces of the past within its boundaries with the J.D. Define Building and the Matthews House. Canal Fulton, home to the St. Helena III Canal Boat, is a quaint town that has excelled in preservation of landmarks. In each of these locations, many examples of unique architecture remain to help relate the story of the past.
Cultural opportunities abound in the area. The Canton Ballet, the Canton Museum of Art, The Canton Players Guild, the Canton Symphony and the Youth Symphony all provide exposure to the arts. With numerous plays, concerts, and theaters to choose from, one may always find an event to suit one's taste.

Economically, Stark County is a viable, growing region. It is the home of diversified industry and commercial business. The production of steel, bearings, rubber gloves, medical supplies, bank vaults, and food products helps to keep the economy moving and many people employed. According to Mr. Moe Kessler, a Republic Engineered Steels executive, one of the most valuable resources Stark County possesses is its skilled and industrious work force. This thought is reinforced by Mrs. Lynne Dragomier, a Hoover Company vice-president, who believes the workers of this area have a strong sense of community and caring. While the needs of industry have changed, and continue to do so, Stark County remains a great place to work.

Along with industry comes agriculture. Thanks to the recession of the last glacial ice 14,000 years ago, Stark County was left impressive deposits of outwash providing fertile farmland. Evident in northern and western Stark County is some of the richest, most productive ground in Ohio. Vegetables and dairy farming are valuable economic assets here; Stark County is one of the major producers in the state. A temperate climate and ample growing season aid production.

As class discussion pointed out, other important resources come from the earth, as well. Clay deposits allow the manufacture of brick, stoneware, and tile. Coal is also found in significant amounts in the hills of southern Ohio. Stark County's plentiful underground reserves of natural gas and crude oil are being tapped continuously for commercial and private use. Our county is fortunate to have these local energy sources from which industry obtains fuels and economic gain. My family benefits directly from this energy supply, as our home is heated by natural gas harvested from a well drilled on our property.

Stark County is a jewel with many facets. It sparkles economically, culturally, historically, and agriculturally. A population from many different cultures and backgrounds provides interest and diversity, both valuable assets. A wonderful place to put down roots and rear families, this area is rich with heritage and opportunity. "Something for everyone" may say it best about Stark County. Why not join us?
WORKS CITED


Written for an English II class, Juanita Weaver’s paper explores the short fiction of Ray Carver from his collection *Where I’m Calling From*. Playfully asking “where was Carver calling from,” Weaver proceeds to suggest that perhaps Carver does not want his readers to fully understand where he is coming from. Each reader walks away from a Carver story with his/her own interpretation, which is Carver’s objective. According to Weaver, it is “actually kind of fun to try to find this calling place” of Carver’s, “wherever it may be.”

**I Hear You Ray, But Where Are You?**

After reading more than a dozen of Ray Carver’s short stories from his collection *Where I’m Calling From*, I have to ask the question, “Where was Carver calling from?” On the surface, his stories seem very simple. They are about people with average jobs such as hotel managers, waitresses, salesmen, and secretaries, who live unsophisticated, mediocre lives. Below the surface, however, there is always more to be discovered if the reader is willing to put forth a little bit of effort. Carver obviously put a lot of thought into his stories. The least that we, as readers, can do is scratch the surface a little, or better yet, dig deep into his words to see what he is really trying to say to us. This is a task that is easier said than done.

One story that does not seem quite as difficult as some others to interpret is “They’re Not Your Husband.” Carver actually tells us quite a bit about Earl and Doreen if, once again, we are willing to look for the hidden clues. Earl is a salesman who is currently unemployed. He is looking for work, and he does find a sales job, but not a paying one. When he overhears two of his wife’s customers commenting on her “fat ass” (Magee), and saying, “Some jokers like their quim fat” (Carver 45), Earl realizes who his next sales pitch will be aimed at. Not wanting to be considered a joker, he decides to “sell” Doreen on the idea of losing weight (Magee).

Using his sales tactics, Earl cautiously presents his “product” to Doreen. At first she is surprised because he has never brought up her weight before, but Earl is able to convince her that she should go on a diet without upsetting her. “All right,’ she said. I’ll try. For a few days I’ll give it a try. You’ve convinced me” (Carver 47). After hearing this, Earl replies, “I’m a closer” (Carver 47). Earl feels that he has successfully closed the deal but if we keep digging, we see something more. John Magee, in his article on “They’re Not Your Husband” for *The Explicator*, says, “Drop the c from ‘closer’ and ‘loser’ emerges, which is what Earl is” (2). Earl is a loser because he thinks that the way his wife looks says something about him. He hopes that if he can successfully help Doreen begin to look better, he may start to feel better about
himself. Another intriguing thought that Magee brings up is that the name “Earl Ober” scrambled is “real bore” (2). I have to agree with this description, and also add that “Ober” sounds an awful lot like “ogre.”

The concept of Earl being a loser shows up again when Doreen tells him that her friends at work think that she is losing too much weight. Now, I think Doreen had a hidden agenda in telling Earl this. Did her friends really think she was getting too thin? I sincerely doubt it. If she had a behind big enough to be made fun of, I do not think losing nine and a half pounds would do a whole lot to change her overall appearance. What was Doreen’s motive for making this up? Well, let’s take a look at Earl’s response: “What is wrong with losing? Don’t you pay any attention to them. Tell them to mind their own business. They’re not your husband. You don’t have to live with them” (Carver 49). It’s as if by saying that there is nothing wrong with losing, Earl is admitting to being a loser. If that was Doreen’s goal I do believe she succeeded.

One common thread in Ray Carver’s stories that sometimes makes them difficult to understand is the way he constructs his endings. Anatole Broyard criticizes Carver’s endings in a New York Times review for what he calls “the most flagrant and common imposition in current fiction, to end a story with a sententious ambiguity that leaves the reader holding the bag” (3). I have to admit that I felt this way when I read my first few Carver stories. They have, however, grown on me. I like being able to come up with my own versions of the endings. I tend to agree with Adam Mars-Jones in his response to the previous quote from Broyard. He says, “Perhaps there is a reason for this. Endings and titles are bound to be a problem for a writer like Carver, since readers and reviewers so habitually use them as keys to interpret everything else in a story. So he must make his endings enigmatic and even mildly surrealist, and his titles for the most part oblique” (3-4).

The end of “They’re Not Your Husband” is ironic because Doreen’s friend asks Doreen who the joker at the counter is, meaning Earl. This whole story has been about how Earl wants to make sure that he is not thought of as a Joker, yet in the end, that is exactly how he is seen. Even though Doreen has slimmed down, Earl is still the same old loser that he always was. Doreen’s reply, “He’s a salesman. He’s my husband” (Carver 52) shows that she knows that she has been swindled. “Doreen’s name scrambled is “redone’” (Magee 2). Her body may have changed slightly, but her attitude about Earl is what makes Doreen a new woman. What will she do now? Will she tell Earl to get lost, or will she stay with him and try to make the best of the situation? Tom Luce has an interesting theory about the ending. He believes that the unfinished sundae that Doreen gives Earl symbolizes a relationship that is not complete. Also, he interprets the act of Doreen’s totaling up Earl’s check to mean that she is sending him out of her life (6). I am not sure that I would
have come to those conclusions on my own, but that is the beauty of Ray Carver's writing; every reader is free to interpret it exactly the way that they want to.

"Ray writes so well, so efficiently and clearly, so easily, that it makes others think to themselves, I can do this. But when we try, we simply can't" (Luce 3). Ray Carver is definitely a one-of-a-kind writer. I still do not know exactly where he was calling from and I do not think that I, or anyone else, for that matter, am supposed to know. One thing I do know is that more of Carver's stories will find their way into my hands, and I will attempt to interpret the subtle meanings buried in them to unearth what Carver tried so hard to bury. After all, it is actually kind of fun to try to find this calling place of his, wherever it may be.

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Written for the class "cells and systems," this paper by Christine Wineka provides an informative look at Chronic Fatigue Syndrome, also known as CFS. Combining medical research with personal insights from herself and two people she interviewed, Wineka examines the medical remedies and lack of treatments to CFS, as well as the types of resources available to sufferers of CFS. Ultimately, Wineka concludes that much more research is needed so that the focus for people with CFS will "no longer be on surviving, but overcoming."

Chronic Fatigue Syndrome

Thankfully, it is hard for most people to imagine a tiredness and weakness of body that would keep one confined to a bed. There are people today who have lived a very active lifestyle for years and have suddenly found themselves burdened by a feeling of bodily weariness they never knew was possible. It all happens so swiftly and surprisingly that many are terrified by these changes taking place.

CFS, otherwise known as chronic fatigue syndrome, is this illness characterized by debilitating fatigue. At times, this disease is also referred to as chronic fatigue immune dysfunction syndrome (CFIDS), or chronic Epstein-Barr virus (CEBV). However, no matter what it is called, it remains a nightmare for those who battle it every day. Many aspects of CFS still baffle medical experts. What is it? How is it diagnosed? What is it caused by, and how is it treated? Many of these questions remain unanswered for those who suffer with it in the Ohio area. Some have grown weary and frustrated, both from the illness and the mixed messages they receive about it.

The major symptoms of CFIDS include headache, sore throat, fever, weakness, lymph node pain, muscle and joint pain, memory loss, and difficulty in concentrating (Holmes, et al., 1988). In order to be diagnosed with CFS, an individual must not have malignancy, endocrine disease, drug abuse, or cardiac, gastrointestinal, renal, and hematological diseases, and various other ailments (Case definition). As a result of this listing, CFS is extremely difficult to diagnose for the doctor as well as the patient. The syndrome resembles so many other health factors, that each must be eliminated, which can take quite a bit of time.

The majority of CFS patients begin with sudden symptoms, resembling a mild cold or influenza. The degree of severity in these symptoms differs widely among patients, and may vary over time within a single patient (CFS FAQ). One can simply become tired, while others may be totally bedridden and disabled from fatigue. Sometimes the body is better, so the individual can lead an almost normal lifestyle, but then days or weeks later this strength may easily wane.
The true cause of this illness is not yet known. Several studies in the 1980's tried to link CFS with the Epstein-Barr virus (CFS pamphlet). This virus is one in the family of herpes viruses, and EBV infection are almost inevitable in all humans. However, more recently it has been found that some CFS patients lack the EBV antibodies, which means they never had this virus (Bell, 1994). Therefore, there has been no consistent link found between elevated EBV antibodies and the presence of CFS.

Other viruses have been associated with CFS as well. In the published research results (Holmes, et al, 1988) findings suggest that the recently discovered herpesvirus-6 (HHV-6) is higher in patients with CFS than in control groups. The higher level of HHV6 does not necessarily suggest that this viral activity is occurring, but may demonstrate immune responses to various stimuli. Although it is possible that HHV-6 may be a factor in CFS sufferers, it cannot be proven with the current antibody testing.

Though this remains an area of great controversy, the psychological factors influencing those diagnosed with chronic fatigue must be considered as well. Many of the symptoms that go along with this illness, such as headache, muscle aches, difficulty in concentrating, or sleep disorders are also major characteristics in primary mood disorders. On the other hand, the remainder of the symptoms, including fever, soar throat, and lymph node enlargement suggest a physical illness (Evaluation by a Physician). Most patients will confess that they were hit with CFS at a time when they were under heavy psychological stress, which suggests a mental factor may be involved. However, most would also probably add that the depression or anxieties they were experiencing were a result of the CFS, and therefore a secondary reaction.

Treating CFS is no easier than diagnosing it. First and foremost, it is important that the patients are informed about their illness and how it affects the daily aspects of their lives. Practical advice and warnings are needed regarding one’s lifestyle. Individuals must take responsibility to learn all they can about their condition in order to ensure the best possible health for themselves.

There is no proven treatment for CFS that now exists. However, a number of experimental treatments are being used every day. One of the most helpful attempts for the patient is simply to avoid stress and get plenty of rest. When a person with CFIDS is exposed to biological stresses, the body reacts protectively, often resulting in altering the body’s natural homeostasis. If this occurs, a long-term or short-term setback can emerge with serious consequences.

There are medical treatments, but they only tend to address the symptoms because the real cause of the disease is unknown. For example, ibuprofen can be given for joint pain or headaches, and prozac to address the problem of fatigue. Other methods include herbs, analgesics, acute anxiety medications,
hypnotics, vitamins, and allergy medications (Common Treatments). Some doctors advocate regular exercise, while others advise against it. All of these tactics have been found useful for some with CFS, but certainly not for all.

In researching the local aspects of chronic fatigue syndrome, I mainly focused on two women in the area, Sue Myers and Marsha Montgomery, who have suffered with CFS for over 5 years. It was interesting to consider the ways each of their cases were similar and yet unique.

I interviewed Sue Myers by phone. Her case was unique from most CFIDS patients. She’d had chronic fatigue for years, and hadn’t known what the problem was. Early in 1991, she began losing patches of hair. Immediately, she went to a dermatologist, who gave her cortisone shots in the scalp to slow the process. Looking back, she now realizes that this was the first time that the symptoms of chronic fatigue appeared. As the months continued on, she found herself battling severe fatigue, flu symptoms, and even the chicken pox. Another unique characteristic in Sue’s case is the incredible pain she was in. Most CFIDS patients experience great fatigue as their main indication of the malady, but instead Meyers was incapacitated by discomfort as her major symptom. There came a point when she couldn’t even go to the grocery store or walk without a limp.

It wasn’t until two years later, when she switched doctors, that she was diagnosed with CFS. Sue shared that many people with CFS can eventually overcome it, but that others find it manifesting itself in another form as in her case. Today, nearly five years later, she has borderline lupus and chronic fatigue. Her doctor, Dr. Goski, feels that the lupus is strongly connected to the chronic fatigue (Myers Interview).

When I met and interviewed Marsha Montgomery, I found that her case was a little different. In 1990, Marsha just began to feel run down. Those things that she had enjoyed, like running and playing volleyball, she no longer had the energy to do. She began to experience joint pain, muscle weakness, and headaches. Soon whole days were swallowed up in sleep. She went to a doctor, and all her problems were attributed to other areas, such as the gallbladder. Similar to Sue’s experience, a couple of years went by before she was finally diagnosed with CFS. In order to really come to any conclusions about her illness, she had to go out and investigate it herself. Unlike Sue, Mrs. Montgomery was mainly affected by extreme tiredness, which would often keep her confined to her bed. The discomfort she would experience was minimal compared to many other CFIDS patients, and for that she was grateful (Montgomery Interview).

Both of these women were highly active individuals who were always on the go. They both shared that they now have to pick and choose those things that they can do or take part in. Each had to make a difficult series of adjustments and cutback her activity. Another similarity they expressed was that
CFS fluctuates a lot. Sue explained how there are days she can bound out of bed with energy she hasn't had in weeks, but then other days she doesn't have the strength to get up and get dressed (Myers Interview). As mentioned earlier, Sue Myers explained to me how chronic fatigue can progress into something else for many individuals. When I asked Marsha about this, she told me that very recently she was also diagnosed with fibromyalgia, with which she experiences a great deal of muscle and joint pain. Her doctor considers this to be almost a sister disease to CFS because often one flows into the other eventually (Montgomery Interview).

It is interesting to consider the way that each of these women were diagnosed. Marsha was tested for the Epstein-Barr virus, and when that was confirmed she was officially diagnosed with CFIDS. Now there is no solid link between the two to make that kind of prognosis. On the other hand, Sue went to a rheumatologist, who brought her in for blood testing. As the results came back, he diagnosed her with both lupus and CFS.

In interviewing these women, I found that most of their reports supported all the research that is out currently on this subject. Both said they have the symptoms listed, and both have tried a variety of treatments, from vitamins and herbs to Prozac. As the studies confirmed, these medications can improve the indications of the malady, but not cure the ailment itself. Also, neither of these women advocated a certain medication or remedy that has helped them any more than another. More than anything, they both suggested major changes in lifestyle. The first was to simply slow down and rest. The focus isn't so much on healing as it is on adjusting.

In researching CFS, I found a great deal of information available to meet the questions I raised. Surprisingly, though, many of those inquiries could not be answered, because we don't know what it is caused by or how to treat it. Things appear hopeful though. Before 1990, CFS was extremely rare, and no one knew much about it. Now, we are hearing of more cases, more studies are being done, and slowly physicians are learning. Marsha has gone to local support groups in Akron and has come to discover that she is not alone. In fact, over forty people attend on a regular basis (Montgomery Interview). The more CFS is explored, the more there will be learned, and then maybe someday the focus will no longer be surviving, but overcoming.

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JAMIE LEE WISE'S ESSAY EXAMINES THE VARYING SOURCES OF ELECTRICAL ENERGY THAT WE CAN DRAW FROM THE OCEANS. IN HIS WELL-ORGANIZED AND RESEARCHED ESSAY, WISE CAREFULLY EXPLAINS THE SOURCES AND THEN DISCUSSES BOTH THE BENEFITS AND DRAWBACKS OF EACH SOURCE. IN THE END, WISE'S PAPER ARGUES THAT "PUBLIC AWARENESS AND EDUCATION CONCERNING THE BENEFITS OF RENEWABLE ENERGY SOURCES NEED TO BE INCREASED," AND THAT THE OCEANS CAN BE A VALUABLE RESOURCE "ONLY IF WE TAKE STEPS TO PRESERVE THIS NATURAL WONDER AND USE IT RESPONSIBLY."

HARNESSING THE ENERGY OF THE OCEANS

Introduction

The oceans cover nearly three-quarters of our planet and contain a vast reserve of resources, yet we are only beginning to tap their full potential. The oceans can provide a wide variety of foods, desalinated water, minerals, electricity, transportation, and recreation for the people of our world; however, this discussion will be limited to sources of electrical energy that can be harnessed from the seas.

The world's energy consumption is currently doubling every 12 years and the consequences of our heavy dependence on fossil fuels are becoming increasingly apparent. Several studies have estimated that our "present reserves of oil and natural gas will be consumed within a few decades, and coal within a few centuries." In addition, "political instability in the Middle East has demonstrated the economic consequences of oil dependence" (Bregman, Knapp, and Takahashi; 1996). Environmental and political concerns are just two reasons why alternative energy sources, such as ocean energy conversion, need to be considered.

Overview of Ocean Energy Conversion Technologies

Technologies that currently exist for generating electrical power from the oceans can be grouped into six broad categories: thermal energy, tidal power, wave power, ocean currents, ocean winds, and chemical sources. According to Ron Bregman, an Ocean Resource Engineer, the most promising and well-developed of these technologies are thermal energy, tidal power, and wave power (1996).

Thermal Energy

The oceans are the world's largest solar collectors. Each day the oceans absorb an amount of solar radiation equivalent in heat content to about 250
billion barrels of oil, according to Michael Champ in *Sea Technology* (1995). This solar energy that is absorbed by the oceans as heat can be converted to electricity by a process known as Ocean Thermal Energy Conversion or OTEC. This technology is based on the large temperature differential between the warm tropical surface waters and the near freezing waters of the deep ocean (Vega, 1995).

So far, three varieties of OTEC have been developed and tested to varying degrees. These are known as open-cycle, closed-cycle, and hybrid designs. In an open-cycle plant, large quantities of warm water from the ocean’s surface pour into a chamber where the pressure is reduced to near-vacuum levels, causing the water to turn to steam. The steam is directed through a large, low-pressure turbine, which generates electricity. Once it comes out of the generator, the steam is cooled by another set of pipes containing very cold water from the deep ocean, which condenses it back into desalinated water. A closed-cycle plant operates in much the same way, except that it uses ammonia as the steam-producing fluid. The ammonia is repeatedly circulated throughout the cycle; therefore, this type of plant does not result in the beneficial by-product of desalinated water. However, the closed-cycle design has the advantage of higher efficiencies. A hybrid plant combines both open-cycle and closed-cycle systems to maximize energy efficiency and to gain other advantages specific to each system. OTEC power plants have also been used in conjunction with desalination plants (DiChristina, 1995 and Uehara, Miyara, Ikegami, and Nakaoka; 1996).

**Tidal Power**

Tidal energy conversion uses conventional hydroelectric turbines and related structures in areas where the high-tide and low-tide water levels are sufficiently different to enable the generation of electricity. The amount of power that can be generated by a tidal power system is directly related to this tidal range. An appropriate site needs to include a tidal range of at least 3 meters, an enclosed basin, a stable ocean floor, and a relatively short distance across which the electricity produced must be transmitted (Bregman, Knapp, and Takahashi; 1996).

Tidal power plants can be classified as ebb-generation, flood-generation, or a combination of the two. An ebb-generation tidal plant produces electricity by allowing seawater to rise into a basin, such as an estuary or bay, by opening the sluice gates during the flood stage of the tide. Once the basin is full, the gates are closed until the sea level ebbs below the level in the basin. The gates are then opened to allow a controlled water flow through the turbines, thereby generating electricity. Flood-generation, in which energy is produced by the incoming tide, is also utilized; however, the electricity that can be generated
from this stage is much less than for the ebb stage. Typically a combination of both ebb-generation and flood-generation is used. The result is two periods per day, approximately five hours each, during which electricity can be produced. (Clark, 1995).

Another type of tidal power plant, designed by a Spanish inventor, works by using a floating platform connected to an underwater tank. Water flows through turbines into the tank and produces electricity. Tidal energy is then used to pump the water out of the container, so the cycle can begin again. This system has the advantage of being largely underwater so as to avoid damage from storms, has a lesser impact on the coastal environment than traditional tidal plants, and is expected to cost about half as much to build and maintain (Luke, 1994).

**Wave Power**

Wave energy has two components, potential energy and kinetic energy, both of which can be harnessed by changing it into another form, such as mechanical motion or fluid pressure. Many varieties of wave energy conversion devices currently exist, including oscillating water columns, surge devices, heaving floats, pitching devices, heaving and pitching floats, and heave and surge devices. These devices may be designed to float on the surface or be moored to the ocean floor and can be located in either shallow or deep water (Bregman, Knapp, and Takahashi; 1996).

The most promising of these devices is the oscillating water column which works by allowing waves to flow into a container containing several air-driven turbines with propellers at the top of the column. As the water enters and exits the container with each wave, air is forced through the turbine propellers, enabling the generators to produce electricity. Specially designed turbines, which rotate in the same direction regardless of the direction of airflow, are often used (Miyazaki, 1987).

Surge devices utilize the forward horizontal force of waves flowing through a turbine into and out of a reservoir. The turbines turn during both water entry and exit, generating twice the amount of electricity from each wave. A heave and pitch float is a device that is fixed to the sea floor consisting of a piston connected via an arm to a buoy that floats on the water's surface. As waves pass by and cause the attached buoy to rise and fall, the piston moves back and forth—a motion that can be used to generate electricity. Pitching devices utilize the pitching moment of rotary pumps. Heaving floats utilize the vertical motion of buoys floating on the surface. Heave and surge devices use both the heaving and surging motions (Hagerman, 1995).
Other Energy Sources

Other potential sources of ocean energy are not as well-developed as OTEC, tidal power plants, and wave devices; however, they may hold greater potential in the future as our traditional energy sources become increasingly scarce and relatively more expensive (Champ, McLain, and Vadus; 1995). Ocean currents can be used to create electrical power in a way similar to waves and tides. Steady blowing ocean winds could be employed as a source of power generation in much the same fashion as windmills on land. Several possibilities also exist to harness chemical energy from the ocean, which could then be used as fuel to generate electrical energy. One example is hydrogen production. In addition to generating electricity, OTEC power plants could produce hydrogen from seawater by utilizing an electrolytic process (DiChristina, 1995).

FEASIBILITY OF CURRENT TECHNOLOGIES

Current barriers to widespread use of ocean energy conversion technologies include a reluctance to invest in a largely untested technology, higher capital costs associated with initial plant construction, competition from other forms of energy, and the geographic limitations associated with each type of energy conversion device (Tanner, 1994).

Technical Issues

Because it relies on large temperature gradients, ocean thermal energy conversion is generally limited to tropical regions. Due to a temperature differential between the surface and deep ocean waters of only 15 to 26 degrees Celsius, OTEC has efficiencies of only 2 to 4 percent (Uehara, Miyara, Ikegami, and Nakaoka; 1996). Therefore, the plant must move very large amounts of water through the plant using anywhere from 20 to 40 percent of the electricity it generates to do so (DiChristina, 1995). Another drawback is that a small OTEC power plant can currently only produce about 100 kilowatts of electricity, which is a miniscule amount relative to a traditional power plant’s generation capacity.

The amount of power that can be generated from tidal plants is much greater than for OTEC, ranging anywhere from 50 to 240 megawatts per site. The LaRance Tidal Power Station in southern France is the world’s largest ocean energy conversion plant, with the ability to produce up to 240 megawatts of electricity (Frau, 1993). The downside of tidal power is that an efficient plant requires large variations in tides, between 3 and 16 meters, which occur in relatively few areas. In some areas of the world, the neap tidal
range can be only half that of the spring tidal range (Clark, 1995). Suitable sites with consistent tidal ranges generally occur only in areas between latitudes of 50 to 60-degrees north and south of the equator (Bregman, Knapp, and Takahashi; 1996). Another drawback to tidal power is that the ebb and flood tidal stages can vary from day to day, making the hours during which electricity is produced vary also. These hours may not coincide with the peak demand for electricity, which can diminish the value of such a system (Bregman, Knapp, and Takahashi; 1996).

Wave energy is more widely applicable with potential along most coastal areas. Coastal wave power plants are estimated to have the potential to produce approximately 48 megawatts of electricity per kilometer of coastline. The wave power available at deep ocean sites is three to eight times that available at the adjacent coastal site; however, the cost of electricity transmission from these sites is prohibitory (Blankesteijn, 1996).

Other engineering issues that all of these emerging technologies must solve are the corrosiveness of seawater and the damaging effects that strong winds and high waves may have on the power plant equipment. Algae growth on the submerged portions of the equipment can also be a problem. Corrosion resistance can be prevented to a great degree by a cathodic protection system, and antifouling paints applied to the metal surfaces may provide some protection against the algae (Clark, 1995).

**Cost Issues**

Perhaps the greatest obstacle to the widespread acceptance of ocean-powered generation is the higher capital cost associated with the construction of such a plant when compared with construction of a traditional fossil-fuel plant. The life expectancy of the components used in any ocean power plant can also be limited due to the corrosiveness of saltwater and possible damage by hurricanes and other severe storms, which can factor into the overall cost.

The energy cost of OTEC per kilowatt-hour has been calculated to be about twice that of coal or oil fired plants, assuming the cost of oil at around $20 per barrel (Tanner, 1994). The technology used to build a tidal power plant is quite expensive, even when compared to other ocean-powered generation devices. What is not often considered is that the useful life span of a tidal plant is about three times longer than a fossil-fuel powered plant and the cost of the tide does not increase with inflation as do coal and oil (Bernshtein, 1995). The costs of constructing and operating a wave power plant can be very difficult to calculate because they are highly dependent on the exact coastal location of the plant. However, the costs are still quite high when compared to traditional power plant construction (Hagerman, 1995). Ultimately,
the greatest feasibility and most competitive costs for ocean energy conversion technologies may be on small islands and in isolated communities where the primary source of electricity is from diesel-driven generators (Miyazaki).

**Environmental Issues**

All of the renewable energy sources discussed above have a distinct environmental advantage over traditional fossil-based fuels and nuclear power sources in that they do not produce harmful by-products such as air pollution or toxic waste. In fact, the major by-product of OTEC is thousands of gallons per day of potable desalinated water! However, there are also changes in the temperature and salinity of the water discharged from an OTEC plant. These changes could have adverse effects on the surrounding marine ecosystem (DiChristina, 1995). Tidal power plants can produce accelerated environmental changes to the coastal area surrounding it. For example, the altered water level in the basin would decrease the natural tidal zone of the area, possibly having a negative effect on the local ecology (Clark, 1995). Wave power stations may disrupt the natural flow of water and the transport of sand along coastal areas, possibly resulting in exacerbated beach erosion problems (Hagerman, 1995).

**Conclusion**

Many research and development goals remain to be accomplished if these types of ocean energy sources are to be feasible. Cost reductions are imperative to make renewable energy an attractive alternative to fossil-based fuels. The reliability and efficiency of the associated technologies must be improved. Suitable sites need to be identified. Navigational hazards created by offshore devices need to be considered, as well as the impact on scenic views from the shorelines (California Energy Commission, 1992). According to the Pacific Gas & Electric Company (1991), interconnection with the existing utility power grid must also be addressed.

Public awareness and education concerning the benefits of renewable energy sources need to be increased. The global political climate must also change, placing greater emphasis on long-term benefits and costs rather than focusing on the short-term. Perhaps most importantly, a better understanding of the impacts of these technologies on marine life and on our shorelines must be gained. The oceans can continue to be a valuable resource for our planet, but only if we take steps to preserve this natural wonder and use it responsibly.
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The present feasibility and even competitive costs for ocean energy conversion technologies may be on small islands and in isolated communities where the environmental advantage over traditional fossil-based facilities is clear. Sources in the North Sea are particularly promising, as the tidal range is larger than in most coastal areas. For example, if 1 million sq. km of potential converted water were to be harnessed, the average output would be 100,000 MW, with an estimated cost of 10 cents per day of power consumption. However, there are also changes that could have adverse effects on the surrounding environment. The construction of large storage basins could alter the local water cycle, leading to changes in sea levels and potential flooding. The construction of large-scale storage facilities could also cause displacement of local populations and erosion of wetlands, which are crucial habitats for many species. In addition, the operation of these facilities could lead to the release of pollutants into the surrounding water bodies, which could have serious consequences for marine life and human health. Therefore, it is essential to balance the potential benefits of these technologies with the need to protect the environment and ensure the well-being of local communities.

Public awareness and understanding of the benefits and potential drawbacks of ocean energy conversion technologies are crucial. Education and outreach programs can help raise awareness and foster public support for these initiatives. It is also important to involve local communities in the planning and implementation of these projects to ensure that their needs and concerns are addressed. This can help to build trust and support for these technologies and facilitate their adoption.

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