

THE UNIVERSITY OF CHICAGO
CENTER FOR INTERNATIONAL STUDIES



Global Lessons

The University of Chicago Center for International Studies presents *Global Lessons* as part of its commitment to providing educational resources for K-12 educators. These materials offer thematic international & area studies content on topics including culture, economics, politics, history, and environmental issues. With *Global Lessons*, CIS aims to provide classroom materials that will not only help to expose students to global issues, but also to empower them to think critically about their role as global citizens.

**Water: An Interdisciplinary Examination
of the World's Most Essential Resource**

Dams: A Global Perspective, A Local Argument

**The University of Chicago
Center for International Studies**

June 28-30, 2010

The University of Chicago Summer Teacher Institute

WATER

An Interdisciplinary Examination of the
World's Most Essential Resource



The Center for International Studies' Summer Teacher Institute, "Water: An Interdisciplinary Examination of the World's Most Essential Resource," was held on the University of Chicago campus from June 28-30, 2010. In addition, a curriculum development workshop was hosted on July 1st and an optional field trip to the Stickney Water Reclamation Plant and the Chicago Center for Green Technology took place on July 2nd.

The Institute provided an in-depth and multifaceted review of global water issues, as well as those that specifically affect the Great Lakes region. Daily topics addressed included: water issues in politics, effective water management, impacts of dams, water scarcity, sanitation, agriculture, and economics.

Thirteen professors, researchers, environmental engineers, and civic leaders from the University of Chicago and other educational institutions from around the world, spoke each day. Sixty elementary, high school, and college teachers from thirty-eight Illinois schools, as well as 20 other education-stakeholders attended the Institute.

The Institute was cosponsored by the University of Chicago Center for International Studies, the Center for East Asian Studies, the Center for Middle Eastern Studies, the Center for East European and Russian Eurasian Studies, the South Asia Language and Area Resource Center, and the Center for Latin American Studies.

The following lesson was created by Brandon Newton, AP Language and Composition, World Literature, and American Literature Teacher, Walter Payton College Prep, and edited by Jamie Bender, Outreach Coordinator for the Center for International Studies at the University of Chicago. The lesson is based on speakers' presentations at the Institute.

For more information on the Center for International Studies, additional resources and classroom lessons developed based on this Institute, and to download resources from other events, please visit the Center's website: <http://cis.uchicago.edu/>



Center for International Studies -- Global Lessons, University of Chicago, 2010.
<http://cis.uchicago.edu/outreach>

Dams: A Global Perspective, A Local Argument

Lesson Overview: In this unit students will learn about the creation and purpose of dams in China and the U.S. This understanding will be further explored by students in a global context by creating a commentary on dams which will be synthesized with independent research. The assessment for this unit is a synthesis essay. This unit is based on information presented at the 2010 University of Chicago Teacher Institute, "Water: An Interdisciplinary Examination of the World's Most Essential Resource."

Written By: Brandon Newton, AP Language and Composition, World Literature, and American Literature Teacher, Walter Payton College Prep

Subject(s): English, Social Studies

Suggested Grade Level(s): High School English (AP Language and Composition, Any class studying non-fiction and creative non-fiction), High School Social Studies, Early College

Time Duration: Four 40-45 minute class periods

IL Learning Standards Addressed:

English:

4.A.4a Apply listening skills as individuals and members of a group in a variety of settings (e.g., lectures, discussions, conversations, team projects, presentations, interviews).

4.A.5b Use techniques for analysis, synthesis, and evaluation of oral messages.

4.A.4d Demonstrate understanding of the relationship of verbal and nonverbal messages within a context (e.g., contradictory, supportive, repetitive, substitutive).

4.B.5b Use speaking skills to participate in and lead group discussions; analyze the effectiveness of the spoken interactions based upon the ability of the group to achieve its goals.

4.B.4d Use verbal and nonverbal strategies to maintain communication and to resolve individual and group conflict.

5.A.5a Develop a research plan using multiple forms of data.

5.B.5a Evaluate the usefulness of information, synthesize information to support a thesis, and present information in a logical manner in oral and written forms.

- 5.C.5b Support and defend a thesis statement using various references including media and electronic resources.
- 5.B.4b Use multiple sources and multiple formats; cite according to standard style manuals.
- 5.A.4a Demonstrate a knowledge of strategies needed to prepare a credible research report (e.g., notes, planning sheets).

Social Science:

- 14.E.5 Analyze relationships and tensions among members of the international community.
- 15.A.5b Analyze the impact of economic growth.
- 15.A.4c Analyze the impact of inflation on an individual and the economy as a whole.
- 15.D.4b Describe the relationships between the availability and price of a nation's resources and its comparative advantage in relation to other nations.
- 15.E.4b Describe social and environmental benefits and consequences of production and consumption.

Objectives:

- Students will work independently, as well as in groups, in order to discuss issues regarding the economics and politics behind building dams.
- Students will apply rhetorical analyses to the essays to understand the purpose of synthesis essays.
- Students will synthesize their knowledge of dams in China and America into a synthesis essay.
- Students will think critically about multiple perspectives on dams in China and the U.S. and all of their social, socioeconomic and global effects.
- Students will understand pros and cons of the development of dams.

Materials:

- Copies of Thomas O'Keefe's PowerPoint from the University of Chicago's 2010 Summer Institute on Water, found at:
<http://cis.uchicago.edu/outreach/summerinstitute/2010/resources.shtml>
- Thomas O'Keefe's handout, "Impact of Dams in China: A Journey through the Three Gorges of the Yangtze River"
- Copies of Peter Hessler's article - "Underwater: The World's Biggest Dam Floods the Past." *The New Yorker*. July 7, 2003.
- Copies of Synthesis Essay handout
- Synthesis Essay Rubric
- Internet access

Activities and Procedures:

Day 1: A Dam Understanding

1. Begin class with a very broad and general discussion of the purpose of a dam. (Generating this discussion will act as an introduction to a synthesis essay that students will write based on the presence of dams in America. Students will be able to make global connections with global competencies.) Facilitate the discussion by asking students questions, such as:
 - *What is the purpose of a dam?*
 - *How much money do you think they cost?*
 - *Taking into consideration the amount of energy you think goes into their production, do dams conserve enough energy?*
2. Transition into Thomas O’Keefe’s PowerPoint from the University of Chicago’s 2010 Summer Institute on Water:
<http://cis.uchicago.edu/outreach/summerinstitute/2010/resources.shtml>
This provides context on what a dam does, how much energy it produces/saves, what other purposes it has, etc. This will also introduce students to the subject of dams in a more global context.
3. Break the class up into small groups of 4 or 5 depending on class size.
4. Use O’Keefe’s topics for discussion handout, “Impact of Dams in China: A Journey through the Three Gorges of the Yangtze River,” to generate conversation in small groups. Give the groups a lot of leeway to discuss these topics. This should be a relaxed discussion. Students should generate ideas and try to make arguments for some of these questions. Encourage some to try to play devil’s advocate and defend other beliefs. *This structure will introduce the idea of creating an individual argument.*
5. Pass out the article from *The New Yorker*, “Underwater: The World’s Biggest Dam Floods the Past.”

Homework:

Have students read the article and answer the following three questions:

- What is the purpose of this article?
- What argument does the author make?
- Why does the author make this argument?

Day 2: Creating A Dam Argument (meet in a computer lab, or rent a laptop cart)

1. Begin with a class discussion of the homework questions:
 - What is the purpose of this article and why?
 - What argument does the author make?
 - Is their more than one argument?
 - How does the author do this?
 - Why does the author make this argument
 - Is it to inform?
 - Is it to persuade?

2. Ask students if they are familiar with any dams in the United States.
 - You should expect to hear “Hoover Dam”, any other answer is most likely a bonus.
 - This is a transition question. It should help students take information learned about Chinese dams and consider it in the context of the United States.
3. Prompt students to log onto their computers and access the web browser to search for dams in the United States.
 - Though not necessarily an academic source, there is a very extensive list here: http://en.wikipedia.org/wiki/List_of_reservoirs_and_dams_in_the_United_States
4. Students will then choose one dam from a list of dams in the United States to focus on. Remember that local dams provide the students with more immediate context. The purpose of this is for students to research a specific dam and create a synthesis essay.
5. The previous steps are an introduction to the subject of dams for the synthesis paper. Now introduce the synthesis paper assignment with the synthesis paper handout.
 - Students should also revisit O’Keefe’s Topics for Discussion Handout to help them in their research.

Days 3 and 4: My Dam Research

Students will work independently in a media center, computer lab, or with a computer at their desk. Students should research the development and purpose of the dam he/she chose in order to create an argument about dams in general.

Homework:

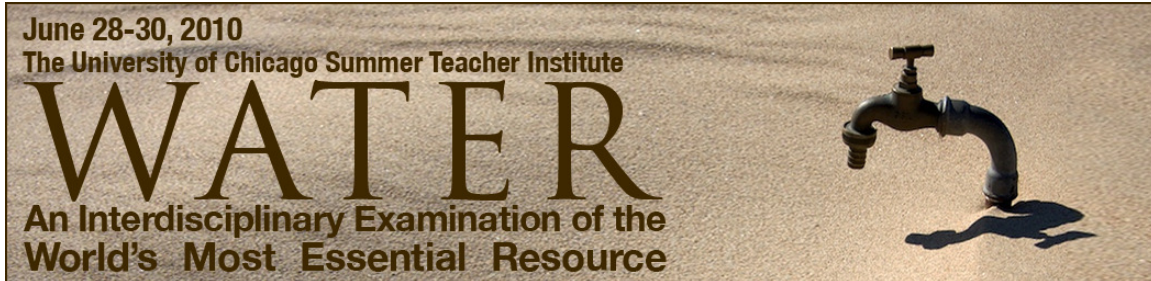
Read “Underwater: The World’s Biggest Dam Floods the Past”

Assessment:

Synthesis essay on a local dam

Adaptations:

For students with impairments, modify the number of pages required for the essay to meet the student’s IEP.



Impact of Dams in China: A Journey through the Three Gorges of the Yangtze River

By Thomas O'Keefe

Topics for Discussion

Geology

- Consider the geology of the Yangtze River and the other rivers flowing off the Tibetan Plateau. Why is this region important when we consider the future of hydropower development?
- What are the geopolitical implications of modifying flow regimes on rivers that leave China's borders?
- What is the lifespan of a dam? How might this factor into decisions over construction and financing as well as the ultimate fate of the dam?

Energy Production

- What are the costs and benefits of replacing coal-produced electricity with hydroelectric power? What do we mean by "replacing" if total energy demand in a country like China continues to increase?
- How do different fuel sources for energy production relate to the operational and logistical requirements of managing an energy portfolio?—what are the challenges of having all your power produced from a single source: hydropower, wind, solar, gas-fired turbine, coal-fired turbine, or nuclear? What is the source of energy for your community? How could the ratio be changed and what would be required to balance the portfolio to ensure consistent and dependable power supply?
- What do we mean when we say energy efficiency could be one of the most economical sources of new energy?

Cultural Implications

- A project like the Three Gorges Dam can destroy important archeological and cultural sites. Why is this important?

Social Implications

- More than 1 million people were moved for the construction of the Three Gorges Dam. Agricultural lands were lost and fishing opportunities were significantly changed? What are the implications for people who spent their life growing up on the river?—what are the costs and benefits?
- How do your own individual actions potentially drive some of the things that are happening on the Yangtze River—the products you buy or consumer choices you make?

Water Development

- Are there parallels between water development in China and our own history of water development in the United States?
- What is the significance of water development in China for agriculture for both China and the rest of the globe?

Ecological Considerations

- Dams produce electricity with minimal carbon emissions. What are the benefits of reduced carbon emissions relative to impacts on ecology of a river? In harnessing power from the river some benefits of a free-flowing river are lost—the power of a free-flowing river has important ecological function. How does a major dam impact the dynamics of a river's flow regime and how could this impact organisms in the river, soil quality, and other ecosystem services we may derive from flowing rivers? What benefits does a free-flowing river provide?
- In some places dams are being constructed and in others dams are being removed. In comparing the factors below what might lead you construct or not construct a dam like the Three Gorges or one on another river flowing of the Tibetan Plateau? Consider a dam in your community and using the same criteria consider whether removal should be a viable option? What is the lifespan of a dam?
 - Location of Dam: Geopolitical and Geologic
 - Benefits of Dam
 - Impacts and Problems Caused by Dam
 - Lifespan of Dam
 - Engineering Approach to Dam Including Cost and Financing

THE NEW YORKER

Underwater

The World's Biggest Dam Floods the Past

by Peter Hessler July 7, 2003



JUNE 7, 2003

At six-thirteen in the evening, after the Zhou family has already moved their television, a desk, two tables, and five chairs onto a pumpkin patch beside the road, I prop a brick upright at the river's edge. On new maps for the city of Wushan, this body of water is called Emerald Drop Lake. But the maps were printed before the lake appeared. In fact, the water is a murky brown, and the lake is actually an inlet of the Yangtze River, which for the past week has been rising behind the Three Gorges Dam. On Zhou Ji'en's next trip down from his family's bamboo-frame shack, he carries a wooden cupboard on his back. A small man, he has a pretty wife and two young daughters, and until recently they were residents of Longmen Village. The village does not appear on the new maps. A friend of Zhou's carries the next load, which includes the family's battery-powered clock. The clock, like my wristwatch, reads nearly six-thirty-five. The water has climbed two inches up the brick.

Watching the river rise is like tracking the progress of the clock's short hand: it's all but imperceptible. There is no visible current, no sound of rushing water—but at the end of every hour another half foot has been gained. The movement seems to come from within, and to some degree it is mysterious to every living thing on the shrinking banks. Beetles, ants, and centipedes radiate out in swarms from the river's edge. After the water has surrounded the brick, a cluster of insects crawl madly onto the dry tip, trying desperately to escape as their tiny island is consumed. The people knew that the flood

was coming, but they did not know that it would come so fast. Most residents of Longmen left last year, when the government relocated them to Guangdong Province, in the south of China. But a few, like Zhou Ji'en and his family, stayed behind to work the land for one final spring. Lately, things have been happening very fast. Two days ago, the elder daughter, Zhou Shurong, completed first grade. Yesterday, her mother, Ou Yunzhen, harvested the last of their water spinach; today, those plots are underwater. All that remain are pumpkins, eggplants, and red peppers.

More than thirty feet above Zhou's pumpkin patch, a neighbor named Huang Zongming is building a fishing boat. Huang has told me that it will be "two or three more days" before the river reaches the boat. Chinese peasants tend to speak about time in an indeterminate manner, even at a moment like this, when the river is a very determined two and a half days ahead of schedule; the government says that it will ultimately rise by more than two hundred feet.

The Zhou family has rented a three-room apartment on the hillside above, and they are moving today because several inches of water have crept across the only road out. At 7:08 p.m., the brick is half submerged. Zhou Shurong has carried out her possessions—an umbrella, an inflated inner tube, and a Mashimaro backpack that contains a pencil box and schoolbooks. As the adults continue hauling furniture, the little girl sits at a table in the pumpkin patch and calmly copies a lesson:

The spring rain falls softly,
Everybody comes to look at the peach blossoms.

At seven-twenty, a young man arrives on a motorcycle and catches black scorpions that are fleeing the rising water. "Usually they're hard to find," he tells me. "They're poisonous, but they can be used for medicine. In Henan Province, I've seen them sold for a hundred yuan"—twelve dollars—"a pound."

By seven-fifty-five, when a flatbed truck appears with two moving men, the brick has vanished. Only a small stretch of road remains dry, and that is where they park the truck. The river hits the vehicle's left front tire at 8:07 p.m. The men start to load the furniture; the sky grows dark. "Hurry up!" Ou Yunzhen says. Nearby, Zhou Shurong and her five-year-old sister, Zhou Yu, stand the way children do when they sense anxiety in adults: perfectly still, arms straight at their sides, eyes unblinking. At eight-twenty-three, the water reaches the left rear tire. The television is the last object to be loaded; it is placed with care in the front seat, next to the girls. At eight-thirty-four, the driver turns the ignition. As the truck rumbles off, the water reaches the top of the hubcaps. Ou Yunzhen stays behind to harvest the last of the pepper crop in the dark.

The next day, in the hard light of the afternoon, I visit the remains of the shack to see what the family abandoned to Emerald Drop Lake: a man's left boot, half a broken Ping-Pong paddle, an empty box that says, in English, "Ladies Socks," a math examination paper, written in a young girl's hand, with the score at the top in bright-red ink—sixty-two per cent.

From 1996 to 1998, I taught English to college students in Fuling, a small city on the Yangtze some two hundred miles upstream from Wushan. Every winter, along with the other seasonal changes, the river shrank. Rain became less frequent, and the snowmelt stopped coming off the western mountains, until eventually the Yangtze exposed a strip of sandstone known as the White Crane Ridge. The ridge was thin and white and covered with thousands of inscriptions. For centuries, local officials had used it to keep track of low water levels. When I visited the ridge in January of 1998, the river was exactly two inches lower than it had been at the time of the earliest dated carving, 763 A.D. The inscriptions made it clear that, in these parts, the Yangtze's own cycle mattered more than the schedules of any authority. One carving, completed in 1086 A.D., commemorated the ridge's emergence during the ninth year of the reign of Yuanfeng, an emperor of the northern Song dynasty. In fact, Yuanfeng had died the year before, but news of the death—and of the new emperor—had yet to reach the river.

Fuling was still remote when I lived there. The city had no traffic lights and no highway. There was one escalator in town, and people concentrated hard before stepping onto it. The only fast-food restaurant bore the mysterious name California Beef Noodle King U.S.A. It was a poor region, and it got poorer as you went downstream toward Wushan, which was at the center of the Three Gorges—a hundred-and-twenty-mile stretch of narrow mountains and cliffs through which the Yangtze passes, creating a landscape of stunning beauty, hard farming, and fast currents.

I could see the river from the classroom where I taught writing. Our government-provided textbook included a model essay, in the chapter "Argumentation," entitled "The Three Gorges Project Is Beneficial." The essay cited a few drawbacks—flooded cultural relics, displaced populations—but the author went on to assert that these were easily outweighed by the benefits of better flood control, a greater supply of electricity, and improved river transportation. Given the fact that the Chinese government had strictly limited public criticism of the dam, we could go only so far with the "Argumentation" unit. I spent more time teaching the proper form of an American business letter.

The idea of building a dam in the Three Gorges was conceived by Sun Yat-sen in 1919. After Sun's death, in 1925, the vision was kept alive by dictators and revolutionaries, occupiers and developers, all of whom saw the project as an important step in modernizing the nation. Chiang Kai-shek promoted the idea, as did Mao Zedong. When the Japanese occupied parts of the river valley in 1940, their engineers performed surveys; when the Kuomintang regained control of China, officials from the U.S. Bureau of Reclamation helped the Chinese continue the planning. After the Kuomintang was defeated, the Communists turned to the Soviet Union for technical assistance. But the Russian advisers left after the Sino-Soviet split in 1960, and during the political chaos of the next two decades the project was put on hold. (The dam's history is explored in a recently published book, "Before the Deluge," by Deirdre Chetham.)

By the time construction finally began, in 1994, the era of big dams had passed in most parts of the world. Both the United States government and the World Bank refused to

support the project, because of environmental concerns. Many critics of the dam believed that one of its main goals—protection against the floods that periodically ravage central China—would be better served by the construction of a series of smaller dams on the Yangtze’s tributaries. Engineers worried that the Yangtze’s heavy silt might back up behind the Three Gorges Dam, limiting efficiency. Social costs were high: an estimated 1.2 million people would have to be resettled, and low-lying cities and towns would have to be rebuilt on higher ground. Once completed, the dam would be the largest in the world—as high as a sixty-story building and as wide as five Hoover Dams. The official price tag was more than twenty-one billion dollars, roughly half of which would be funded by a tax on electricity across China.

But in Fuling I never heard any of this. When I left the city, in the summer of 1998, the only visible indications of the project were a few altitude markers that had been painted onto buildings in the lower sections of town. The signs said, in bright-red paint, “177 M”—supposedly, the future height of the reservoir. It was precisely forty metres higher than the White Crane Ridge’s inscription from 1086 A.D.

During the next five years, I often returned to the Three Gorges; more red signs had cropped up along the river. Most identified metre marks of either 135 or 175, because the reservoir was scheduled to be filled in two stages, first in 2003, and then at the higher level in 2009. Some of the red signs had an odd specificity: 141.9, 143.2, 146.7. They reminded me of the ridge—the whole valley was being marked and inscribed in preparation for the flood.

Down near the riverbanks, the old cities and villages were left virtually unimproved. Even though the rest of China was in a construction frenzy, there was no point in building anything new where the water was certain to rise. These settlements gave a rare glimpse into the past: untouched landscapes of gray brick and dark tile. Higher up, on the surrounding hillsides, new cities and towns were being built with cement and white tile. From the river, the Yangtze’s evolving history could be read at a glance, in a series of horizontal bands: the dark riverside settlements that belonged to the past, the green stretch of farmland that would be claimed by the reservoir, and the clusters of white looking toward the future.

The new cities went through distinct stages of creation. In the beginning, the inhabitants were mostly young men: construction workers, bulldozer operators. Shops soon appeared, but they stocked almost nothing that you could eat or wear. They sold tools, windows, lighting fixtures. Once, in the new city of Fengdu, I walked down a half-built street where virtually everybody was selling doors. Women generally appeared once the local market economy took hold. After that, children materialized, and then the city was alive.

The old settlements died quickly when the government began demolishing them in 2002. Most residents were given housing compensation, which they could use to purchase apartments in the new cities. But an estimated hundred thousand rural villagers were relocated to other parts of China. Generally, they were moved in blocs:

sometimes an entire hamlet was loaded onto a boat and sent downstream to another province, where the government provided small land allowances. I knew a cop who escorted an entire village by train to the southern province of Guangdong. After the old villages had been reduced to rubble, many of the residents who remained were elderly. They delayed the final move, living in tents and lean-tos. Makeshift shops sold mostly products that people could eat or wear.

A few younger people stayed behind to earn a bare living. Scavengers sold scrap metal, and peasants tried to coax one final crop out of the doomed soil. Neat rows of vegetables were cultivated amid the rubble, like gardens in a war zone. I arrived in the village of Dachang last year just as the first row of houses was being torn down. A middle-aged man sat in the wooden frame of his ruined home. It wasn't yet eleven o'clock in the morning, but he was quite drunk. "I'm like a man hanging from a nail," he told me.

Some of the stragglers were like that—they had slipped outside the valley's evolution. Often, they didn't belong to traditional Communist work units, or they were migrants who weren't eligible for compensation. When I visited the old city of Wushan in September of 2002, after most of the structures had been torn down, there were still a number of beauty parlors where prostitutes waited patiently behind blue-tinted windows. I had a sudden vision of the women, nine months later, sitting with the water up to their necks. In the tiny village of Daxi, one old man pulled out form after form, showing me how he had lost his resettlement funds—more than ten thousand yuan (around twelve thousand dollars)—on a bad investment in coal. The region was rich in doomed cultural artifacts: ancient villages that would disappear, temple sites that would be drowned. In Dachang, which had the most intact Ming- and Qing-dynasty architecture, I was shown around by a man in his early twenties named Huang Jun. At the old dock, underneath a massive banyan tree, he pointed out two stone lions that guarded the steps leading down to the water. The lions' faces were chipped and scarred; their backs had been worn smooth from decades of being sat on. In the future, the site would be underwater.

"During the Cultural Revolution, Red Guards threw the lions into the river," Huang said. "It was chaotic, and nobody knew what had happened to the statues. But years later an old man dreamed one night that they were out in the water. He told the other villagers, and they searched in the river and found them. That was in 1982—I remember it. The story is very strange, but it's true."

JUNE 8TH

At nine-forty in the morning, the river is almost empty. Tourist ships have been cancelled for weeks—first because of the outbreak of sars, and more recently because the reservoir has been filling up. The water rises at roughly six inches an hour. Some friends and I are in a small speedboat, powered by an outboard motor, and we head in the direction that used to be downstream. But now the river has no heart; it lies slack between the walls of the Wu Gorge. The water comes to life only in the bends, where the sky opens and the wind kicks up waves.

Eight months ago, I hiked this route on a series of century-old footpaths. The trails had been carved directly into the limestone cliffs, and they hung more than two hundred feet above the water. I travelled with a friend, camping along the way, and in the middle of the gorge we followed a tributary called the Shennu Stream. The Shennu came from the southern mountains and it was too shallow for boat traffic. The valley rose around us as we hiked upstream, until at last we were in a deep canyon, hopping from boulder to boulder. Ferns covered the cliffs; there weren't any red metre markings in this unpopulated place. We tried to guess how high up the cliffs the water of the new reservoir would rise.

This morning, the pilot heads to the Shennu. We move east through the Wu Gorge, where virtually all of the cliff trail is underwater. The mouth of the Shennu is wide and still; tree branches float near the banks. But upstream, where the water is flowing, the debris begins to disappear, and the river's color starts to shift. The water turns dark green, then green-blue. Long-stemmed ferns trail directly into the river—the current hasn't yet pulled them off the cliffs. We zip around one sharp bend, then another. The landscape still has the character of a water route carved by a smaller stream—it meanders wildly, taking abrupt turns—and it is mesmerizing to flash through it on a speedboat. The boat doesn't belong here; the water doesn't belong here: this is a brand-new gorge. The stream color shifts to deep blue. The sound of rapids ahead joins the motor's roar.

There is a horrible scraping sound and the boat lurches to a stop; everybody grabs the side. The engine cuts off. We sit in stunned silence for a moment while the pilot checks for damage. The boat and the motor are intact. Drifting backward, the rapids suddenly loud now, we see the boulder, its tip glistening beneath a foot and a half of water. Looking at the submerged shape—enormous, tan-colored, the hard curve of its back disappearing into deeper water—I think of the stone lions and the old man's dream.

At two-fifty in the afternoon, I return to Emerald Drop Lake. Yesterday, I walked on the road; today I have to take a boat. I visit the Zhous' former residence with Huang Po, the nine-year-old boy from the fishing family next door. When Huang sees the sixty-two-percent math examination lying in the rubble, he folds the paper carefully and puts it into his pocket.

"Why do you want that?" I ask.

"If I see her, I'll give it to her," Huang Po says.

"I don't think she wants it," I say.

The boy grins slyly and touches his pocket.

His father, Huang Zongming, has finished building the fishing boat a day earlier than he predicted. It is forty-two feet long, made of the wood of the Chinese ton tree. Eventually, Huang plans to sell it. The labor required several family members and more

than twenty days of work; recently they caulked the cracks with a mixture of lime, hemp, and tung oil. This morning, they treated the entire surface with a coat of the oil. Tung oil is a natural sealant, as well as an effective paint thinner—in the late nineteen-thirties, it was China's single most valuable trade product. The tung oil gives the wood a reddish shine; the shape has a rough, simple beauty. The boat sits on wooden struts. It has never touched water. I ask Huang when he plans to move it.

"Whenever the water reaches it," he says. Huang is shirtless, a skinny, square-jawed man with efficient ropelike muscles. Later, when I ask if he's worried about the boat's not being tested before the water rises, he gives me the slightly annoyed look of a shipwright hassled by diluvian reporters. Huang Zongming is a righteous man, and he knows that his boat will float.

I first met the Huang family in September of last year, when Longmen Village was still on the map. By local standards, the place was relatively prosperous; residents fished the waters of the Daning River, the tributary that entered the Yangtze at Wushan, and farmed the rich floodland. When most of the villagers were relocated to Guangdong, Huang Zongming and his brothers, Huang Zongguo and Huang Zongde, stayed behind. The government had organized the Longmen transfer, but it was unable to insure that everybody actually went. In today's China, despite official registrations, people who are determined to live in a place can generally find a way to do so.

Huang Zongguo told me in September that the relocated peasants often complained about the scarcity of farmland in Guangdong. He added that they struggled because they couldn't understand Cantonese. Huang was disappointed with his family's resettlement allowance—roughly ten thousand yuan per person. We spoke in his simple gray brick home; the water and the electricity had just been cut off. In two weeks, Huang Zongguo said, the demolition crews would arrive.

Since last fall, Zongguo and Zongming have paid for the construction of a two-story building high above Emerald Drop Lake. The home is almost completed, but Zongming tells me that he doesn't want to move there until later in the year; during the summer he prefers to be close to the river. He lives in a shack topped by an old fibreglass boat cover, along with his wife, Chen Cihuang, and their two children, Huang Po and Huang Dan, a twelve-year-old girl. Zongming is thirty-five years old, and he has worked a fishing boat since he was ten. Unlike his former neighbors the Zhous, who grew up in the highlands and migrated to Longmen to farm, Zongming is completely at ease around water. His response to the rising river is simply to move the makeshift home thirty feet higher up the hillside. But he feels no need to undertake this project until the last possible moment. At five-fifteen in the afternoon, the water is about eight feet below the Huang home. I ask Zongming when he expects the river to reach his new boat. "Probably about noon tomorrow," he says.

In the new city of Wushan, which has been constructed on the hillside directly above the former site, there are parallel streets called Smooth Lake Road and Guangdong Road.

Smooth Lake refers to a poem that Mao Zedong wrote in 1956, when he swam across the Yangtze and dreamed of a new dam:

Walls of stone will stand upstream to the west
To hold back Wushan's clouds and rain
Till a smooth lake rises in the narrow gorges.

The poem is familiar to people along the river, and it's not unusual for them to speak of the project in terms of national achievement and welfare. In 1997, when the Yangtze was diverted at the dam site to prepare for construction, President Jiang Zemin proclaimed, "It vividly proves once again that socialism is superior in organizing people to do big jobs." Once, in the new village of Qingshi, I saw a restaurant whose owner had posted a handwritten sign in the form of a traditional Chinese New Year's couplet:

Honorable migrants leaving the old home and moving to a new life
Giving up the small home, serving the nation, building a new home.

Guangdong Road takes its name from the southern province that was the first part of China to boom after free-market reforms were implemented, in 1979. Funding from this area has supported part of the Three Gorges Dam development, and in the new towns it's not unusual to see names that pay respect to the south. The new city of Wushan has a school called the Shenzhen Bao'an Hope Middle School. Shenzhen is a thriving Special Economic Zone that borders Hong Kong, and seeing its name on a school in Wushan is like coming upon Silicon Valley Inspiration High in the middle of Appalachia. New Wushan itself seems like a vision of prosperity that has arrived from far away. The town's central square features an enormous television screen, before which crowds gather at night to watch martial-arts films. Guangdong Road is lined with plastic palm trees that are illuminated after dark. There is a coffee shop called Starbucks (with no official link to the American chain). Other shops bear English names: Well-Off Restaurant, Gold Haircut, Current Bathroom. There is a clothing boutique called Sanity.

In the new cities I rarely heard criticism of the dam. Even in rural areas, where people have received far fewer benefits, complaints tend to be mild and personal. Generally, people felt that they hadn't received their full resettlement allowances, often because of the corruption of local Communist Party cadres. But those who complained almost never questioned the basic idea of the dam. When I asked Huang Zongming what he hoped his children would do when they became adults, he said he didn't care, as long as they used their education and didn't fish. He told me that the dam was "good," because it would bring more electricity to the nation. In Wushan, I met a cabdriver who told me that his home town had leapfrogged a half century. "If it weren't for the dam, it would take another fifty years for us to reach this stage," he said.

But later in the same conversation he told me that the city wouldn't last another half century, because of landslides. The new Wushan, which has a densely concentrated population of fifty thousand, is a vertical city: high buildings on steep hillsides that have never been heavily settled. Concrete erosion controls prop up many of the

neighborhoods. The cabbie drove me to Jintan Road, where there had been a recent landslide. An apartment building had been evacuated; piles of dirt still pressed against the street. I asked the cabbie if he was concerned about the fifty-year limit. "Why worry about it?" he said. "I'll be eighty by then."

During my years along the Yangtze, I had always been impressed by the resourcefulness of the people, who responded quickly to any change in their surroundings. They took the revolution of the market economy in stride; if a product became available and was in demand, shops immediately stocked it. But there was almost no long-term planning. When people spoke of the future, they meant tomorrow.

One afternoon last year, I discussed this shortsightedness with Jiang Hong, a Chinese-born geographer who teaches at the University of Wisconsin at Madison. She has studied communities in the deserts of northern China where generations of government policies have been implemented to convert the region into arable land. Many of these practices were environmentally unsound, and local residents generally resisted them. But she had noticed that in recent years there has been less opposition to such schemes, partly because free-market reforms gave people more incentive to try to change their environment. In the past, government campaigns often touted abstract goals, like the attempt to surpass the United States and Britain in steel production in the late nineteen-fifties. Such a target can inspire a peasant for only so long; nowadays everybody wants a better television set. And the lack of political stability has kept people from developing long-term expectations.

"Since 1949, policy has changed so often," Jiang Hong told me. "You never knew what would happen. In the nineteen-eighties, people saw the reforms as an opportunity. And you had to seize the opportunity, because it might not last."

Whenever I travelled along the Yangtze, I sensed that the dam's timing was perfect, because the parallel drives of Communism and capitalism had bent just enough to intersect. Building the world's biggest dam appealed to the dreams of the Communist leaders, but they never could have achieved it in the days of isolation and chaos, before the market reforms. And if the reforms had been around long enough for locals to get their bearings and look beyond satisfying today's immediate desires, they would have questioned and possibly resisted the project. In the future, when people look back at China's transition period, one of the lasting monuments may well be an enormous expanse of dead water in central China.

JUNE 9TH

At nine-thirty in the morning, after Huang Zongming has drunk a single glass of grain alcohol, the waters of Emerald Drop Lake reach a corner of the wooden frame that is propping up the fishing boat. Most of the family's belongings have yet to be carried up the hill. Offshore, a snake glides through the reservoir, its head up like a periscope.

A resident of Wushan has commissioned Huang and his nephew to caulk a long rowboat, and Chen Cihuang has been left to organize the evacuation. At nine-forty-six, the water touches another corner of the boat frame. The family has loaded the craft with a few possessions: a power drill, a basket of fishing gear, a carton of Magnificent Sound cigarettes. They throw spare lumber into the stern. An inch of water has flooded the former home; Chen, her sister-in-law, and the children wade through as they carry their possessions. Huang Po splashes his sister whenever possible.

By ten-forty-seven, Huang Po has made enough of a nuisance of himself to be excused from moving duties. He strips off his clothes and goes swimming.

At ten-fifty-nine, a sampan floats past and the pilot shouts out, "Do you have a boat to sell?"

Chen snaps back, "We're this busy and you think we're selling boats?"

By eleven-forty, all four corners of the frame are underwater. Sixteen minutes later, another sampan drifts past; somebody is selling coal. The move is complete when Huang Zongguo helps the women dismantle the roof. Huang Po suns himself, stark naked, on the prow of the new boat.

At one-thirty-four in the afternoon, the wake of a passing craft rocks the fishing boat, which lurches, creaks, and finally swings free. It floats. ♦

My Dam Argument: A Synthesis Essay

Synthesis means putting ideas from many sources together into one essay or presentation. After reading several books, watching movies and participating in a variety of class activities, your task is to organize some of the information around a theme or a question, make generalizations, and then present information (statistics, quotes, examples) in a logical way to support your argument. Remember that a synthesis is NOT a summary, a comparison or a review. Rather a synthesis is a result of an *integration* of what you heard/read and your ability to use this to develop and support a key thesis or argument. Learning to write a synthesis paper is a critical skill, crucial to organizing and presenting information in academic and non-academic settings.

How to Write a Synthesis Paper

Content

1. Pick a topic from the list found in Thomas O'Keefe's Topics of Discussion handout. You will be applying this topic to the presence of dams in America.
2. Develop a thesis. If you posed a question, present a tentative answer. Begin your paper with the thesis, clearly outlining the ideas you will develop.
3. Identify at least three sources. You can find references which support your thesis.
4. Analyze your sources to identify the similarities and differences. Group similar ideas together; generalize from these similar ideas.
5. Assemble the various generalizations in a logical and coherent way.
6. Focus on the ideas, not the authors of those ideas (your essay should not sound like a list of unrelated ideas by unrelated people).
7. It is highly recommended that you use direct quotes when referring to texts, but make sure you situate your quotes and integrate them into the paper both in terms of content and writing.
8. You can present and refute arguments which challenge your thesis if your thesis/question lends itself to this.
9. Whenever possible, make an effort to pepper your paper with real-world examples which support your overall argument

Format

1. The length of your paper should be 5-7 typed double-spaced pages with reasonable margins. This does not include your bibliography (or works cited).
2. Be consistent in your use of bibliographic references; include page numbers for quotes. List all works you cited at the end of your paper.
3. As you use quotations to support your ideas, make sure you do not produce a paper of lengthy quotes strung together. Make sure you use proper MLA formatting. If you need more assistance consult: <http://owl.english.purdue.edu/owl/resource/747/01/>
6. Spend time outlining, organizing and editing your paper. Ideally, you can find someone else to proof-read your paper.
7. When you are done editing, think of a title which best captures your thesis.

Synthesis Rubric

The following rubric grades students on their mastery of the various writing foci for this unit. Each category is given a score based on a ten-point scale. Ten signifies mastery, and scores decrease with greater need for improvement.

ORIGINALITY – Something about the paper topic stands out as worth reading. Its originality captures the reader's attention.

10-----7-----4

CLAIM – The author has created a strong thesis/argument.

10-----7-----4

REASON & EVIDENCE – The author provides relevant reasons and uses sufficient credible evidence.

10-----7-----4

INTENTION – The author has spent time with his or her language, shaping each word, line, and paragraph with care.

10-----7-----4

RATIONALIZING – The author's writing has no holes. The piece is complete and well-thought out. Citations are relevant.

10-----7-----4

EFFICIENCY – The paper is the correct length. Sentences are not too wordy, and the author is concise.

10-----7-----4

NOBILITY – The author finds the larger significance of the issue and presents it clearly.

10-----7-----4

ORGANIZATION – The author effectively organizes the essay.

10-----7-----4

PURPOSE/AUDIENCE – The author shapes his/her writing for a specific purpose and with a specific audience in mind.

10-----7-----4

LEVEL OF DISCOURSE – The author has a variety of sentence structure and exhibits strong use of cohesive devices. Vocabulary and grammar are at an excellent level.

10-----7-----4