

HONR 229L: Climate Change: Science, Economics, and Governance

Discussion #4: One Island, Two Peoples, Two Histories: The Dominican Republic and Haiti

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Class Web Site: <http://www.atmos.umd.edu/~rjs/class/honr229L>

ELMS Page: <https://myelms.umd.edu/courses/1269254>



<http://www.gettyimages.com/detail/news-photo/haiti-and-dominican-republic-true-colour-satellite-image-news-photo/129381987>

12 September 2019

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AT 3, Q 1:

This chapter focuses on three examples of societal success that occurred in New Guinea, Tikopia, and Japan. State the two vastly different types of political structures employed on these three islands, briefly (sentence or two) state what each structure means, then identify which structure was used on each island. Note: these two structures will be a recurrent theme of the class.

The two different structures employed on the three islands were bottom-up and top-down approaches to solving environmental problems from a political perspective. New Guinea and Tikopia used a bottom-up approach, while Japan used a top-down approach.

The bottom-up approach worked well in small societies where there was no king or head leader and **every person knew the entirety of the society and understood that their actions impacted everyone**. Here, the people simply had to convince themselves to act in environmentally smart ways to protect their environment for themselves, the current generation, and future generations. On the other hand, the top-down approach worked well in large societies where **people couldn't necessarily see the impact that their actions had on the entire society**. In this case, a king or political head was the person who laid down the environmental rules that everyone had to follow to ensure that the environment would be in good shape for future generations to come.

Nice succinct summary. Please note that in modern society, bottom-up can also refer to grass roots efforts that attempt to influence authorities (an example to follow)

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AT 3, Q 2:

Define silviculture and briefly summarize how the people of New Guinea used innovative approaches for both silviculture and agriculture. Can keep your answer to 2 to 3 sentences :)

Silviculture is essentially agriculture for trees; it is the purposeful cultivation of trees or forests. In order to more effectively grow crops, the people of New Guinea often terraced their land to reduce soil erosion. They also grew *Casuarina oligodon* (known as ironwood) interspersed with their crops to **fertilize the soil by using the tree's roots to fix nitrogen**.

Nice succinct summary written in easy to understand terms

Silviculture is the growing of trees instead of field crops as done normally in agriculture. The New Guineans utilized many techniques for growing crops in an area that received up to 400 inches of rain, had frequent earthquakes, and landslides. They added weeds, grass, and vines as organic matter too add compost to the soil. They dug ditches around the crop fields to remove water logging and on steep slopes they would construct terraces which would act as soil retention barriers. The New Guineans used silviculture by transplanting seedlings that had sprouted naturally along stream banks of the native tree species, *Casuarina oligodon*. **This species is fast growing, fixes nitrogen, has steady roots, and also reduce garden infestation.**

A more expansive summary with great detail: much thanks!

Historically, humans have been rather resourceful farmers. Replacing trees was a most urgent matter for many ancient peoples. Obviously the inability to solve this problem doomed the society of Rapa Nui.

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AT 3, Q 3:

What two specific problems did the people of Tikopia have to overcome, in order to keep their 1.8 sq mile habitat continuously populated for 3000 years?

The Tikopians had to **produce and store enough food** to avoid starvation, particularly during dry and cyclone seasons, on an island that was so isolated that importing food was out of the question. Another problem they had to overcome maintaining **a stable, non increasing population**.

Tikopia was so far out of the range of other islands that the only imported goods consisted of stone and marriage partners. The annual dry season and storms would result in the necessity of keeping an emergency food supply to survive in such difficult conditions. Large cyclones especially could devastate the foods normally eaten by the people of Tikopia.

Ancient Tikopians were incredibly disciplined and resourceful in addressing both problems.

2,500 people are listed as missing nearly two weeks after Hurricane Dorian hit the Bahamas

By **Faith Karimi** and **Chandler Thornton**, CNN

🕒 Updated 5:40 AM ET, Thu September 12, 2019



<https://www.cnn.com/2019/09/12/americas/bahamas-dorian-thousands-missing-thursday/index.htm>

<https://www.aljazeera.com/news/2019/09/hurricane-dorian-75000-urgent-aid-bahamas-190905203916583.html>

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AT 3, Q 4:

Around 1700, the Shogun of Japan adopted a multi-staged, elaborate approach for woodland management. The responses are described as "negative responses" and "positive responses" enacted in a multi-staged approach. Briefly, in 2 to 3 sentences, summarize how the ruling class was able to manage the woodlands of Japan.

In your answer, state which of the two political structures described in your reply to Q1 was used. Finally, in another sentence or two, state whether you think the other political structure would have worked.

The ruling class was able to manage the woodlands of Japan by restricting the lower classes' access to wood and limiting the types of wood that could be harvested and utilized. In a positive response, the ruling class encouraged commoners to plant more trees, the shogun taught the people about the dangers of erosion, flooding, and deforestation, and rulers took measures to survey tree health. Using top-down management, the empirical and dictatorial-like system of Japan's powerful centralized government was effective in solving environmental issues.

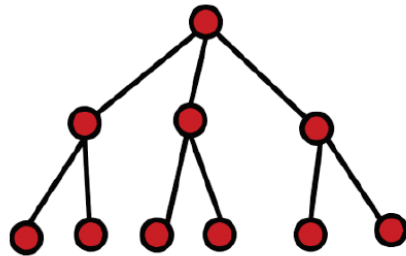
In 1700, the tribal bottom-up political structure, similar to that of the New Guineans, would not have worked as well in Japan because of the size of Japan's population and land area and the variety of resources in the country. I think that this method could have been effective in solving environmental issues that each community in Japan was facing, but to solve the issue of deforestation, propelled by rulers constructing new buildings with timber, the top-down method was more effective.

Top Down and Bottom Up

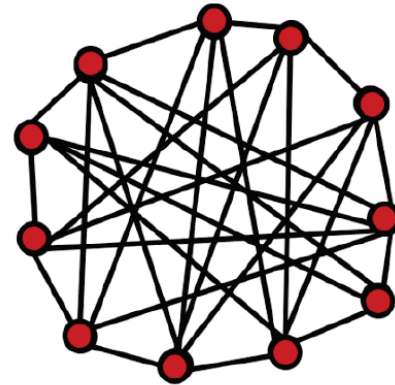
Unions are a prime example of a bottom-up approach that has greatly affect industrial and labor relations in our country

‘Collective bargaining’ is how working people gain a voice at work and the power to shape their working lives

<https://www.epi.org/publication/how-todays-unions-help-working-people-giving-workers-the-power-to-improve-their-jobs-and-unrig-the-economy/>



“Top-down”



“Bottom-up”

<https://organizationalphysics.com/2016/10/13/top-down-vs-bottom-up-hierarchy-or-how-to-build-a-self-managed-organization/>

Top Down and Bottom Up

Jared Diamond wrote today's chapter in 2003; Twitter was founded in year ____

Top Down and Bottom Up

Jared Diamond wrote today's chapter in 2003; Twitter was founded in year 2006

Top Down and Bottom Up

What are these two islands?



Top Down and Bottom Up

What are these two islands?



Top Down and Bottom Up

What bottom up movement recently happened in Puerto Rico?



Top Down and Bottom Up

What bottom up movement recently happened in Puerto Rico?



The protests in Puerto Rico began after the Center for Investigative Journalism [released over 800 pages](#) of offensive and criminally implicating text messages between former Gov. Ricardo Rosselló and other high-ranking government officials in early July. On July 25, Puerto Ricans made history by using massive mobilizations that cut across geographic, generational and cultural divides to force their governor to resign.

Puerto Ricans exerted the power of the masses by creating space for all sects of Puerto Rican society to participate in protest. There were protests for 11 consecutive days in front of the governor's building, and a national strike saw [over 500,000 Puerto Ricans occupy](#) a central highway in an inspiring demonstration of solidarity. [Forms of protest](#) ranged from music, visual art and dance to acts on horseback, boats, kayaks and motorcycles.

<http://www.browndailyherald.com/2019/09/12/fernandez-21-puerto-rico-story-resistance/>

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AT 3, Q 5:

Remarkably, in the essay about Tikopia, Jared Diamond has resisted the temptation to draw an analog to modern, global society.

In your own words, in a paragraph (i.e., lead with a strong topic sentence), describe how Tikopia might serve as an analog to modern society. In your reply, see if you can work in the phrase "carrying capacity", which probably has already come up a few times in class.

Every population on the planet has a carrying-capacity; humans are not an exception. On Tikopia that carrying capacity was 1,200 people as that's all their 1.8 square mile plot of land could support. On Earth, in general, the actual carrying-capacity is less clear. However, many scientists agree we are likely fast-approaching our population limit due to exponential growth in the last century. The United Nations projects population may reach 9.7 billion by 2050. As such, we on present-day Earth face very similar problems as Tikopia: how can we reliably produce a food supply for a growing population of 7.6 billion (current population), and how can we, if need be, prevent the population from growing beyond our limit?

Great thoughts! Please try to write with one thought per sentence. Also, subject verb sentence structure "Jane crossed the street ..." is often "best" for the middle of a long paragraph. And, compact writing "as Tikopia" rather than precise writing "as those Tikopia faced for the last 3000 years" is sometimes preferable.

First Learning Enrichment Event

Event: [Carbontech on the Hill](#)

Date: Thurs, September 26 Time: 4:30 to 7:30 pm

Location: U.S. Capitol Visitor Center, First St NE, HVC 201, Washington, DC 20515

Speakers: Dr. Marcius Extavour, Carbon XPRIZE, Roxanne Brown, United Steelworkers, and John Litynski, U.S. Department of Energy

Website: <https://www.eventbrite.com/e/carbontech-on-the-hill-registration-70805843183?aff=ebdssbdestsearch>

All non-congressional attendees must be registered.

Third Way, Carbon180, and XPRIZE are excited to host the second annual “Carbontech on the Hill” event, which brings together carbontech innovators from across the country to share their work and progress toward building a new carbon economy.

From jet fuel to plastics and building materials, the carbontech sector is turning the carbon equation on its head; helping to create a world where we remove more carbon than we emit. Not only is the carbontech sector good for climate, it can create and preserve high-paying jobs and secure U.S. leadership in lucrative new industries.

Please join us for a briefing where we’ll explore the tremendous opportunity for carbontech in the United States, and what it could mean for American businesses, workers, and climate efforts.

Sponsors: [Third Way](#), [Carbon180](#), and [XPRIZE](#)

<https://www.thirdway.org/about>

<https://carbon180.org>

<https://www.xprize.org/prizes/carbon>

Students can either meet me and wait in front of the Atlantic Building at 3:25 pm (sharp!) to travel together via Shuttle & Metro, or else meet us at the meeting venue.

First Paper

- First Paper (**25 %** of final grade)
 - due **14 Nov** **BUT** can be completed well before due date!
 - 5 to 8 pages single spaced; must include references & can include figures, both of which are excluded from the page count
 - expands upon the topic of any class meeting, *other than* class meeting you have or will lead, or explores some other topic related to class
- Various stages for first paper:
 - Thurs, 19 Sept: **description** of paper due
 - <https://myelms.umd.edu/courses/1269254/quizzes/1287072>
- We are looking for a modest amount of independent research outside of the required readings rather than a summary of the required readings
 - Paper should include citations: can consult <http://lib.guides.umd.edu/citationtools> for info on various citation managers
 - Websites can be cited by either placing URL into reference list with an appropriate descriptive label: i.e. EPA, 2016: <https://www.epa.gov/criteria-air-pollutants/naaqs-table> or by using footnotes
 - Primary sources should be articles in magazines such as *Scientific American* or *Natural Geographic*, journal articles, government reports, or book chapters

A week from today

- Please provide a brief description of your paper, including:
 - a) the topic
 - b) resources to be used as source material for the paper
- “Paper Desc” assignment due 19 Sept; can find link to this assignment on either <https://myelms.umd.edu/courses/1269254> or <http://www.atmos.umd.edu/~rjs/class.honr299L>

Finally, great if I can see Anna and Peter after class, to discuss presentations for next week.



HONR 229L: CLIMATE CHANGE: SCIENCE, ECONOMICS,
AND GOVERNANCE

ONE ISLAND, TWO PEOPLES, TWO HISTORIES: THE DOMINICAN REPUBLIC AND HAITI

Hillary Griffin

September 12, 2019

GEOGRAPHY



DISCUSSION QUESTION I

- The variation in forest cover between the Dominican Republic and Haiti is paralleled by differences in what factor (or factors)?

LAND/DEMOGRAPHICS

DOMINICAN REPUBLIC

- Forest Cover: 41%
- 74 park reserves
- GDP: 75.93 billion USD
- 88th largest export economy in the world
- Top Exports: Gold (\$1.5B), Rolled Tobacco (\$758M), Low-voltage Protection Equipment (\$510M), Knit T-shirts (\$472M) and Medical Instruments (\$434M),



LAND/DEMOGRAPHICS

HAITI

- .36% forest cover
- 4 park reserves
- GDP: 8.408 billion USD
- 143rd largest export economy in the world
 - Poorest country in the Western Hemisphere
- Top exports: Knit T-shirts (\$414M), Knit Sweaters (\$242M), Non-Knit Men's Suits (\$130M), Knit Women's Suits (\$64.9M) and Essential Oils (\$47.2M)



DISCUSSION QUESTION 2

The Haitian side of the island had less environmental advantages than the Dominican side of the island, but developed a rich agricultural economy before the Dominican side.

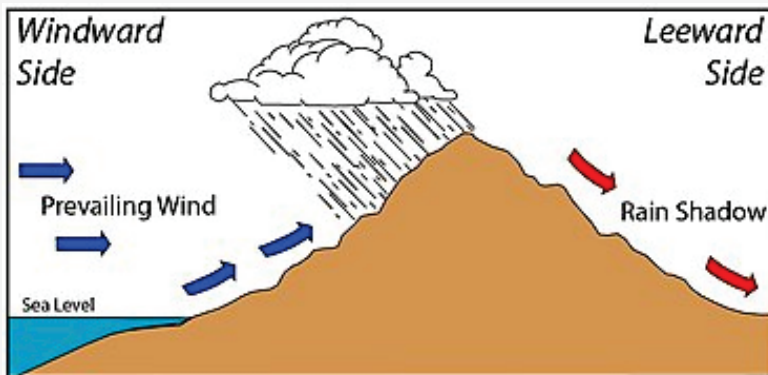
What were the environmental advantages on the Dominican side?

Describe how this happened and state whether or not you feel this early happenstance foreshadowed the events that later transpired.

ENVIRONMENTAL ADVANTAGES

Dominican Republic

- Thicker soil
- Good conditions for agriculture
- Optimal side of island for rainfall



Haiti

- Thin soil
- Poor conditions for agriculture
- Mountain barrier provides block of rainfall and drier conditions

ENVIRONMENTAL DETERMINISM

- *Environmental determinism* is the belief that the environment, most notably its physical factors such as landforms and climate, determines the patterns of human culture and societal development
- How does the situation on Hispaniola display Environmental Determinism?



Papa Doc Duvalier
President of Haiti, 1957-1971



Baby Doc Duvalier
President of Haiti, 1971-1986



Rafael Trujillo
President of DR 1930-
1961



Joaquín Balaguer
President of DR 1962-
1964

POLITICAL INFLUENCE ON ENVIRONMENTALISM

- How do the leaders of Haiti compare to the leaders of the Dominican Republic in terms of environmental policy?

BONUS DISCUSSION:
“DOMINICAN REPUBLIC AND HAITI DESIGN
STRATEGY TO PREVENT COCOA CULTIVATION
DISEASE”



https://acento.com.do/2019/economia/8717743-republica-dominicana-y-haiti-disenan-estrategia-para-prevenir-enfermedad-del-cultivo-del-cacao/?utm_source=dlvr.it&utm_medium=twitter

- How does this relate to the previous chapters we have read?
- What will make this successful?
- Do you believe this partnership will be successful? Why?

VIDEO: DIVIDED ISLAND

- <https://www.youtube.com/watch?v=4WvKeYuwifc>



Divided island: How Haiti and the DR became two worlds



VIDEO DISCUSSION

- How do the Dominican Republic border guards display discrimination?
- Does this remind you of an event in our own culture?
- What points in Diamond's book are proven by this video?