Four Assignments on an Artifact for a Cultural Heritage Institution
IS211 Artifacts and Cultures | Dr. Jonathan Furner | Fall 2021

Acquisition
Acquisition Object: Spotted Lanternfly specimen, and US Department of Agriculture Pest Alert
https://www.aphis.usda.gov/publications/plant_health/alert-spotted-lanternfly.pdf

In 2019, through 2021 *Lycorma delicatula* or the Spotted Lanternfly (SLF) became a constant presence in Pennsylvania, Maryland, Delaware, and New Jersey. It has continued to spread, having now been reported in Massachusetts, Ohio, Indiana, and Virginia. It has changed the landscape physically by being an overwhelming seasonal presence when in its adult form, and as a threat to agriculture, ecology, and economy. People were alerted to these insects as a threat, being advised to report and kill when seen. The unified effort to kill these insects, information about their life-cycle, movements, preferred diet, all became part of mainstream culture. People were stomping, chasing, photographing, making jewelry and art, and they still are. Majority of people in affected areas were actually invested in an insect in their environment. Adding a specimen and the USDA's pest alert to the collection at the Invasive Species Field Museum of Philadelphia will document a citizen-science campaign to track and eliminate an invasive species, and the efforts of government organizations, and science and land professionals to solve pest management issues.

As a collections manager in the Academy of Natural Scientists in Philadelphia, I have a responsibility to document ecological and social effects of living things, while educating and inspiring people to care about their environment dictated by this institution's mission. Part of my role is assisting in the management of entomology specimen collections, and creating exhibits and programming. *Lycorma delicatula* this addition to the collection would complement the mission to curate specimens that contribute to research on critical environmental issues. As a specimen, it would not only illustrate invasive species' effects on biodiversity, but begin conversations about urban entomology and humans' roles in mitigating the negative effects of insect population surges. It also offers an opportunity to examine how government agencies respond and interact with communities about environmental threats.

The spread and consistency of the SLF also coincided with the spread of the novel coronavirus COVID-19, and the language surrounding both has overlap in calls for quarantine,

preventing the spread, tactics to keep plants or people safe respectively, and in anti-Asian sentiment as the SLF is native to China and Vietnam. In the context of the COVID-19 pandemic the SLF provides an opportunity to fill a gap in collections, shifting from historical to current issues. The SLF can facilitate displays that open a dialogue about globalization and collective responsibilities, the ensuing rise of public acts of violence in the name of racism, xenophobia, and white supremacy, and again government agencies or systems of power and their role in how we engage with our surroundings. Ultimately the SLF is classic case of "the other", a topic that is rarely handled or acknowledged in historical scientific spaces, giving this museum to a chance to speak about this history, and how to reconcile natural threats on the environment, such as pests or invasive species, and the persistence of living things, and possibly bring the conversation into a broader perspective about the consequences of labeling "the other" in societies.

Description

Exhibition: Take Care of Where you Live

Philadelphia Orchard Project at the Woodlands

Audience: Children 8 to 12

You may not see it at first, oval shaped, blue-grey wings, black spots, scurrying up a tree trunk. Then you go to pick some cherries or apples, just like from the trees that are around you now. Suddenly it leaps, flashing bright red, and white. Then you see the tree is covered in spotted lanternflies. The ability to jump allows the bugs to spread quickly from tree to tree. These bugs are not supposed to be on trees or any other plants that we can see around us. The spotted lanternfly likes to eat trees, just like we like the fruit. But they are messy eaters, creating a mold which hurts the trees, attracts other bugs, and disturbs outdoor areas. How can we keep the spotted lanternflies away? Hop, hop, hop. They are fast, but after 3 hops you can stomp on them. Identify spotted lanternflies, STOMP, and help protect the trees around you.

Exhibition: Presentations on Labor Dynamics in Forestry

Penn State College of Agricultural Sciences

Audience: University students

This is a spotted lanternfly. Red, white, and black spotted wings are outstretched, floating to its next victim. Will it be a hardwood tree? Pennsylvania is the largest producer of hardwood timber products, an industry worth $5 billion dollars annually.[1] Or a grape vine? The grape and wine industry brings $4.8 billion dollars annually to the state.[2] This planthopper, roughly an inch in length, holds the fate of hundreds of jobs, and plants, in its small, small sap sucking smile. The estimated loss statewide is close to $1 billion dollars,[3] falling most heavily on certain agricultural industries: nursery operations, fruit growers, and forestry. Though Pennsylvania regions have been quarantined, this network of agriculture extends beyond Pennsylvania, and beyond the United States. The demand for construction supplies and paper products pushes forestry into a global market, simultaneously creating problems that undermine its goal. The spotted lanternfly brings our attention to challenges of globalization that we do not yet have the answers to solve.

Evaluation

I am the assistant curator at the UC Riverside Entomology Research Museum writing to discuss the admittance of the Spotted Lanternfly (*Lycorma delicatula)* to the museum collection and permanent exhibition. The museum's collection serves entomology students at graduate and undergraduate levels, researchers, the general public, as well as those in the fields of pest management, public health, forensic medicine, agriculture, and environmental biology.[1] These user groups primarily utilize this collection for research in their field, and it is the museum's purpose to aid in facilitating that research as well as education by providing a diverse range of insects and arthropods. The criteria for determining whether a new specimen will add to this purpose and work are expressed in the following dimensions:

Authority:

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[1] Caitlyn Johnstone, "The Lanternfly Effect," *Chesapeake Bay Program,* August 15, 2018. https://www.chesapeakebay.net/news/blog/the_lanternfly_effect.
[2] Amy Duke, "So Long Spotted Lanternfly," *Agricultural Science Magazine*, April 19, 2021. https://agsci.psu.edu/magazine/articles/2021/winter-spring/so-long-spotted-lanternfly.
[3] Jayson K. Harper, William Stone, Timothy W. Kelsey, and Lynn F. Kime, "Potential Economic Impact of the Spotted Lanternfly on Agriculture and Forestry in Pennsylvania," (economic study, Center for Rural Pennsylvania, 2019). https://www.rural.palegislature.us/documents/reports/Spotted-Lanternfly-2019.pdf.

- Is this a specimen from another historical collection, private collection, or product of fieldwork, and geographically where was it collected from?
- Was this specimen acquired through a legal, humane, and fair method?

Utility:

- Is it representative of any kind of ecological change in an environment and what is its role in that change?
- Will this specimen contribute to new research in a related field?

Usability:

- Are all life stages present in the specimen collection, making it easy to use for research and identification?

The first criterion uses two questions to determine whether the spotted lanternfly sample has authority as a record for further use. It does this by establishing provenance and context. In this case, the sample was acquired from research and information from the USDA, collected in Pennsylvania. It was acquired legally, humanely, and fair as there is an abundance of these insects. It's geographic location also can illustrate evidential value of where this insect lives, or to trace where it has spread.

The second criterion questions the insect's utility, how it can be used. Both its intrinsic and instrumental functional value can be assessed respectively with the questions asked. In an ecological context, this insect is regarded as a pest. It has no intrinsic functional value besides existing, and it does that well as it is spreading rapidly through the world. But in its rapid spread it has made it an invasive species, new to the United States, and new to Korea and Japan. This context, and its role in environmental change, gives it functional value as a specimen, providing data to fields that have different motivations for wanting to educate, identify, and study this insect. As has been illustrated by the work at Cornell University, its existence has also contributed to research in integrated pest management and biotechnology with discoveries about using fungi as pest killers.[2] Its compounded contextual role and its use when collected and observed dictates its value as evidence, information, educational of environmental change and ecological conditions.

The third criterion asks questions of usability. How well or how easy is it to use this specimen is determined by how it is preserved in a museum setting. Research and education museums dealing with specimens of insects rely on the pinning and labeling of each accession. In this case all life stages have been collected, though still need to be pinned, mounted, and

labeled. When it is properly preserved, and documentation of its lifecycles are complete, it can be used effectively for research and education.

These criteria, by meeting them, solidifies this specimen's value and ability to meet the goals of this institution and its users. The spotted lanternfly would therefore be a good addition to this research collection.

Lesson Plan for 11th Grade History Students

Learning objectives: The topic of the lesson is biopolitics and labor, as well as how people participate in these systems to survive and resist. This course focuses mostly on the 20th and 21st century history and literature, so topics of discussion will be centered in that time period. Students will gain an understanding about the concepts biopower, biopolitics, necropolitics, and bare life. The course will use selected readings from Michel Foucault, Achille Mbembe, and Giorgio Agamben. These readings will have been assigned before class, so students will come prepared having read them. A visit to the Fowler exhibit, "Labor in the Service of Survival of Extreme Environmental Change," was attended before this lesson to connect these concepts in an alternative context to see how objects and experiences relate to these concepts.

Teaching goals: The students should be able to take what has been learned in the readings, classroom activity, and the exhibition and use it to critically evaluate micro level events or objects within macro level sociopolitical contexts relating to labor, the environment, and politics. The goal is to get students accustomed to engaging with a specific lens when analyzing literature, events, policy, and artifacts to help in their future academic endeavors. Relating academic scholarship to their own knowledge and respective communities will then help ground the lesson practically, and provide tangible examples while moving through difficult and complex topics. It is important for young adults to realize, examine, and make connections about how people and objects exist within economies, systems, and power structures that control life.

Checking for understanding: Student's will be displaying what they have learned through active participation in a museum field-trip, classroom activities, and a take home assignment.

Classroom Activities:

- Introduction of the lesson will be asking the students to share what they thought of the exhibit. This will assess how students are relating to the material before the main lesson.
- For a short period of time the students will split up into groups to discuss the readings, define key concepts in their own words, and think about examples from contemporary events or their own life.
- For the main body of the lesson, as a class we will outline on the board definitions of concepts and key points made by each author. Taking examples chosen by the students we will walk through how to analyze them with the lens of these social theories.
- To further assess what the students have learned, they will be asked to write a reflection on how they see or interact with labor in their own life, and apply key concepts from the reading to their views to form an analysis.

Materials:

- Last chapter of Michel Foucault's *History of Sexuality Volume I* (1976)
- Mbembe's *Universal Right to Breathe* https://www.journals.uchicago.edu/doi/full/10.1086/711437
- Excerpts from A. Mbembe's *Necropolitics* (2003) *https*://warwick.ac.uk/fac/arts/english/currentstudents/postgraduate/masters/modules/postcol_theory/mbembe_22necropolitics22.pdf
- Excerpts from G. Agamben *Means without End* (2000)