

Social Networking and its Contribution to Educational Efforts

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2. Introduction to topic

The topic we have chosen for our research project addresses a significant issue in the United States, particularly within the context of the Missouri Botanical Garden, commonly referred to as MOBOT. We have had the privilege of partnering with the Garden for almost a year and a half, during which we have engaged in a comprehensive series of focus groups, interviews, and surveys to gain deeper insights into the Garden and its diverse patrons.

The CODES program comprises two distinct research teams, both focusing on different aspects of the Garden. My partner and I represent different research teams, and we have decided to explore the areas her team is investigating. After some deliberation, we formulated our research question: “How can social network analysis be utilized to map historical connections between enslaved individuals and garden practices, and how can we leverage these findings to inform contemporary educational initiatives?”

This question presents numerous unknowns, beginning with the current state of educational efforts surrounding this topic. We have yet to see the effectiveness of existing programs, and we are also tasked with understanding the practical applications of social network analysis in this context. Our challenge is the scarcity of data within the Garden regarding enslaved individuals' lives. This research question holds critical importance, as many patrons of the Garden remain unaware of the historical ties between its founder, Henry Shaw, and the enslaved people who contributed to its establishment.

We hope to acknowledge the Garden's overlooked history, acknowledging its complex past while cultivating an environment for education and reflection. By shedding light on these connections, we hope to not only restore a more accurate historical narrative but also guide future efforts to promote awareness and understanding of this pivotal aspect of our collective heritage.

We have five major topics we are focusing on in relation to our research question: comparison, population, intervention, timeline, and outcome. Population: We are focusing on the people we can educate on the historical connections between enslaved people and garden practices. Intervention: Our intervention is using a social network analysis to compare and contrast our topics. Comparison: We are trying to compare enslaved people's practices versus original garden practices. Outcome: Our hopeful outcome is to use the results from our social network analysis to create some educational efforts within the Missouri Botanical

3. Research Question

We hypothesize that a social network analysis can be used to relate historical connections with the garden's past and enslaved persons. By mapping the social ties within enslaved communities and identifying patterns of knowledge sharing, we may uncover how garden practices were not only essential for survival but also played a crucial role in sustaining cultural identity and resistance within these communities. Historical sources and maybe archaeological evidence can provide data on the agricultural techniques used by enslaved people. These sources also help identify the networks of individuals who shared and developed knowledge of gardening and plant-based medicine.

This is relevant to us because much of the history of the Missouri Botanical Gardens isn't known, let alone spread around. Not enough people are spreading the history of the garden, and the people going to the gardens are spreading the information. The people going to the gardens aren't mostly people of color, which is part of their history, especially if they are from or close to the area.

Knowing your history is very important. Learning about it can help people and simply inform them about things they've never known. Our history helps shape us, and people should understand what helped form/ shape them and their people/communities.

We are also curious just to see how much of an impact social networking has in regards to connecting it from the garden's past to enslaved people. If this does have a significant impact, we could implement this within our projects in some way or help others. A couple of our projects include outreach, so this could help or support one of our projects or someone else's when it comes to MOBOT.

1) Review Paper Analysis (Jada)

1. Article information

Williams, J'Nese. "J'Nese Williams, Plantation Botany: Slavery and the Infrastructure of Government Science in the St. Vincent Botanic Garden, 1765–1820 s." *PhilPapers*, 1 Jan. 1970, [Plantation Botany: Slavery and the Infrastructure of Government Science in the St. Vincent Botanic Garden, 1765–1820 s** - Williams - 2021 - Berichte zur Wissenschaftsgeschichte - Wiley Online Library](#).

2. Introduction to the Review

a. The purpose of this article is to highlight how slavery contributed to botanical science but it gets undermined.

b. The argument of this article is to unveil the cover that is on science currently because it is seen just one way not realizing or even acknowledging the different parts that have played a huge role within it.

3. Analysis of review

This review highlights and depicts botanical culture but more especially the St. Vincent Botanic Garden, which was established in 1765. Gardens have huge impacts, such as being a global network that helps contribute to different people providing various resources. The garden played a vital role when it came to exchanging plant samples, which led them to be able to have an expansion within the plantation, and their resources were brought to new regions. In order for the garden to even be able to do different things as there was a key role that helped shape the garden to be what it is. Which was slavery.

The enslaved people helped keep the land clean, planting, as well as just maintaining the garden to be what it is. The different ways they kept the garden in good shape often derives from their heritage. Their heritage doesn't just stop in Africa it continues to carry on with them and be carried down from generations.

Even though they have these different traditions within their culture that help pave the way, people in higher power make sure they try to find a way to erase their background. They know that African heritage has not only helped them, it has also helped them profit, but they still try to find a way to act as though it never existed. Within this review no matter how hard they try to hide it, this review provides different archives that support and show how much of a big role the enslaved people have played. Not only does it help support it, but it also shows how the enslaved people were treated and what they had to go through.

In the end this article review found that only enslaved workers worked there and not European gardeners; their goal was to continue to connect labor and the slave system. In order to do so, historians and even scientists to a degree must be willing to center labor and slavery from now on. It will show the true foundation rather than just talking about the surface level of things.

This review helps with the idea that we should start with slavery as the focal point and expand from there instead of trying to work our way to the root. This will allow us to see things from another perspective instead of having to look at the problem and then deconstruct but this article will enable us to work our way building up into the problem and the different attributes dwelling within it. This shows how enslaved people had practices before getting taken and they brought those practices over to the gardens, and their practices are still having an impact and play a role within the gardens until this day.

2) Review Paper Analysis (Kyra)

1. Article information

Howard, Allen et al. "The Spatial Factor in African History: The Relationship of the Social, Material, and Perceptual (African Social Studies Series) - PDF Free Download." *Epdf.Pub*, EPDF.PUB,epdf.pub/the-spatial-factor-in-african-history-the-relationship-of-the-social-material-an.html. Accessed 28 Sept. 2024.

2. Introduction to the Review:

- a. The purpose of this article was to educate readers on the relationships between different elements in Africa challenging traditional perspectives and focusing on a newer science.
- b. The main argument this article proposes is one that challenges a more traditional way of thinking to a more new way.

3. Analysis of the review.

This review article looks at how social, material, and perceptual relationships are changing in tropical Africa, focusing on the role of space in shaping these connections. It challenges older ideas that only focused on rigid kinship structures and instead argues that a more interdisciplinary approach, combining history and anthropology, can offer a better understanding of African societies. The article suggests that by studying how people interact with the spaces around them, we can get a deeper look at how social identities are formed and change over time. It emphasizes that space plays a huge role in how people experience their world and build social connections, which helps us understand social identity in a more complex way.

One of the key points the article makes is the importance of using spatial analysis when studying social structures. Instead of just looking at kinship or family ties, spatial analysis allows researchers to examine how the environment, geography, and history all influence social identities. This approach helps to fill in gaps left by older research that focused mainly on family lines and static structures. The review shows that by considering space alongside history and anthropology, we can get a more complete picture of how African societies are organized and how people relate to one another.

In conclusion, the article argues that looking at African societies through a spatial lens offers a fresh and more nuanced perspective. By combining history, anthropology, and geography, we can see how social identities are shaped by a mix of factors, not just kinship. This approach challenges old ways of thinking and opens up new ways to research African communities, making it clear that the study of space is crucial to understanding how people interact with their environment and with each other.

However I am not exactly sure if there is much relevance with this article, but I think the fact that it focuses on types of relationships between social, material, and perceptual elements, that it could help when looking at social networking and the different relationships we are wanting to dive deeper in.

1) Research Paper Analysis (Jada)

1. Article information

Fernández, Enrique Vázquez, et al. "Slavery Today and Its Social Impact." *SCIRP*, Scientific Research Publishing, 16 Mar. 2020, www.scirp.org/journal/paperinformation?paperid=99134.

2. Introduction to paper

a. The author's purpose of the authors area of research was to analyze the contributions of slavery and its impact even until today on us as a society and even more specially different communities to go even further even on single human beings.

b. The hypothesis of this article is "One of the great causes of slavery is the low importance and great ignorance regarding the affectations in the daily life of the victims of this activity. Therefore, it is important to achieve interest and awareness in society about this phenomenon."

3. Evaluation of data/evidence

The methods used for this article were in four different sections. Within the first section they were studying and examining where slavery was. More specifically the development of slavery among many regions. Second, they looked into the various forms of slavery. Third, they explored sexual slavery. Lastly they tied it all together looking for the guilt.

With the first section of the development of slavery, they looked into different places such as the Central African Republic, India, and lastly Mexico. They are countries that were victims of slavery, and taking a deeper dive, they look into their economic activity. With the different labor that is being done, some people were differently impacted by slavery due to their profitability.

The second section discusses and examines the different forms of slavery, including Production Modes and Their Relationship to Slavery, Primitive Communities and Their Effect on the Life of Man, Slavery as a Mode of Production, and Feudalism and Its Effect on the Life of Man. This section highlights the different forms and explains them to show that every region did not operate similarly.

The third section sexual slavery, talks about different types of sexual slavery and who it impacts. It touches on how sexual slavery is the biggest cause of illegal trade. The different sections within it are technological slavery, domestic workers, forced marriage, Slavery: The Evil that Does Not Fade, and From the Slave to the Enslaved. Each section talks on where sexual slavery happens, what it impacts, who it impacts and how it impacts.

Finally the last section being titled “Looking for the Guilty” they are trying to find the who of it all which is the purpose of it all. Seeing that it affects all types of people it's not easy to pinpoint who exactly. Like the finding the slave trade had numerous effects on society and causing internal as well as external conflicts.

This article helps prove how much of an impact slavery has on everyone until this day. Rather than its vivid or behind-the-scenes, slavery is the root of a lot of things happening in society, even those that gain profit. When it comes to gardens, sometimes they don't like to shed light on the people who actually help form and tend that garden. This will help allow us to see how this genuinely happens not only in one particular spot but all over. This can allow us to have evidence supporting the claim because if there wasn't anything to hide, then it wouldn't be hidden, but they don't shed light for a reason, being the fact that they truly play a big role within gardens.

2) Research Paper Analysis (Kyra)

1. Article information

Reece, Robert L. "Whitewashing Slavery: Legacy of Slavery and White Social Outcomes" *JSTOR*, May 2020 <https://www.jstor.org/stable/pdf/26991044.pdf>

2. Introduction to paper

The purpose of this article is to educate people that slavery was not just a black disadvantage but a white advantage. The Use of the data tables both support the hypothesis that the author is complying.

3. Evaluation of data/evidence

This article uses two different types of methods and data. The first set of data tables is one that focuses on descriptive geographics using geographic variables. This first set of data only partially supported the authors hypothesis. The second set of data that we can see is the use of tables with information regarding the estimates of white home ownership in former slave holding Countries. This data supported her hypothesis. The white population in slave receiving countries would greatly increase our understanding of how slavery shaped national economies. The authors also discuss the ethical considerations involved in digitizing and sharing historical documents that contain sensitive information. They emphasize the importance of balancing the need for academic research with the potential harm that could be caused to descendants or communities whose ancestors are represented in these records. The review touches on questions of privacy, consent, and the potential for misinterpretation of historical data when taken out of context. Navigating these ethical challenges is a key part of the project, as the university seeks to honor the lives of enslaved individuals while making their stories available to the public.

Furthermore, the digitization project has also sparked discussions on the role of archives in shaping public memory and historical understanding. By making these records available to a wider audience, the authors suggest that the university is not only preserving history but also giving voice to a group of people whose stories have been marginalized or forgotten in mainstream historical accounts. This process of uncovering and sharing the untold stories of enslaved people contributes to a broader cultural and academic movement to rethink the ways in which history is recorded and remembered.

Looking ahead, the authors suggest that future steps in this research should include expanding the scope of digitization to include more regions and more types of records related to enslaved and free Black people. This could involve collaboration with other universities, archives, and historical organizations to build a more comprehensive national database. This article is relevant to our research question because it provides an important perspective for long-term impacts of

slavery beyond the typical focus of Black disadvantage. This is taking a more white advantage type of focus. And this connects to our research question with connecting enslaved people with their land.

3) Research Paper Analysis (Jada)

1. Article information

Wunder, Sven, Value Determinants of Plant Extractivism in Brazil: An Analysis of the Data from the Ibge Agricultural Census (November 1999). IPEA Working Paper No. 682, Available at SSRN: <https://ssrn.com/abstract=204469> or <http://dx.doi.org/10.2139/ssrn.204469>

2. Introduction to paper

a. The purpose of this article is to identify what measures the economic value in Brazil when it comes to extractivism due to them wanting to do that for the whole Legal Amazon.

b. The hypothesis for this paper is that improving on the economic and ecological value will help the value of plants, and even how people view them/ interact with them.

3. Evaluation of data/evidence

The methods used within this paper were quantitative and qualitative methods as well as including data. This paper first presented its data which led into a description of everything then turned into an analysis and lastly leading up into a summary.

The first section was collecting data of various things being: “current production, costs, income etc.”, gross income, cost elements, consumer prices. Highlighting and going over these different numbers shows where people spend money and how often these things are being bought. With needing the different resources they are taking away from something greater. With the consumer always consuming there is an extraction somewhere to provide for them. There aren't different alternatives presented for them to get something else or use different resources.

They then lead into the description of the various products being used with the top three being: firewood, lumber, and charcoal. They are 72% of total plant extraction values. Then they show the data for each of them ranging from number of respondents to quantity sold/ extracted, even to the regions where it is needed. They highlight how much of a key role and the high demand needed for them.

Lastly they analyze the data and different findings first they talk about the extraction values within the Legal Amazon and how much of a demand they have and how those demands impact it in a huge way. Then leading to explain spatial differences in extraction value which highlight the level of economic and biophysicality of a land and which would lead to extractivism.

In the end they found that forest extractivism does have a sense of inferiority and that whatever is put into the market economy has a huge impact on the “option value”. The purpose of the overall conclusion of this paper was to consider “option values” provided by biodiversity in natural forests and to just see how that small act can impact a lot.

This helps me to see the value of plants and the importance of nature. Not just focusing on slavery itself but on how the value of a plant is very important and it's not just there to be torn

down or abused but it's there in the ecosystem to help. We should add more value to plants and tie it to slavery and see how they came to be. The plants have a long story as well. This can contribute to the fact that plants do need a certain type of care and attention. Certain practices can help appreciate the plant/ nature properly and there is an origin in where these practices came from.

4) Research Paper Analysis (Kyra)

1. Article information

Pathak, Manohar. "Mapping Ethnobotany Research in India." *View of Mapping Ethnobotany Research in India*, 12 Oct. 2020, ethnobotanyjournal.org/index.php/era/article/view/2079/1147.

2. Introduction to paper

The area of study that the arthur comes from is called ethnobotany, which is the study of plants used by indigenous people. Focusing on the relationship between plants and human activities with those plants.

3. Evaluation of data/evidence

In this study, the authors employed a **quantitative data analysis** approach to examine the patterns of ethnobotanical research in India, focusing on publication trends and journal preferences over a specific time period. The methodology included a systematic review of published ethnobotanical studies indexed in scholarly databases, particularly those included in Science Citation Index journals. Data collection involved identifying articles published between 1975 and 2018, with a focus on the journals where these studies were published. The authors analyzed the trends in publication frequency, key journals, and the geographical distribution of the research, using **graphs and tables** to visualize the data, such as Figure 2 on publication trends and Table 1 on journal preferences.

This design tests the hypothesis that the field of ethnobotany in India has experienced fluctuating trends in terms of publication frequency and journal preferences over time, and that this pattern can be linked to changes in indexing practices, such as the inclusion of the *Indian Journal of Traditional Knowledge* in SCI databases. By tracking the publication records over several decades, the study aimed to determine both the growth and challenges in ethnobotany research, particularly focusing on India's contributions and the broader implications for the field globally.

The authors point out the **regional disparities in research outputs**, with certain states and tribes being more extensively studied than others. This uneven distribution suggests that some areas of India have received more ethnobotanical attention due to better access to indigenous knowledge or more active collaboration with academic institutions. This could imply a need for more inclusive research practices that extend to lesser-studied areas and communities. Finally, the authors emphasize the need for continued support for ethnobotany research in India, as the field holds substantial potential not only for preserving traditional knowledge but also for contributing to modern pharmacology and sustainable agriculture.

In conclusion, the study offers a comprehensive look at the evolution of ethnobotanical research in India and demonstrates the field's growing significance in global scientific discourse. The data

collected provides a valuable foundation for future research and highlights the importance of sustaining ethnobotanical studies to bridge the gap between traditional knowledge and modern scientific applications.

5) Research Paper Analysis (Jada)

1. Article information

McGrath, Robert E., et al. *Augmented Reality for an Ethnobotany Workbook*. Oct. 2011. www.ideals.illinois.edu, <https://hdl.handle.net/2142/27715>.

2. Introduction to paper

- a. The purpose of this author's paper is to discover the various parts of history behind plants through computers.
- b. This paper hypothesizes that humans and plants have a deeper relationship with one another than most tend to realize.

3. Evaluation of data/evidence

The method used in this was a product they would like to use that will provide different ways for us to interact with and connect with/ understand the plants.

The project is a self-contained computer application that provides three-dimensional graphics stemming from Augmented Reality to create a “magic book”. The Ethnobotany Workbook contains 15 3D interpretations of plants species along with the: description, habitat, propagation, plains indian/ settle users, and additional information regarding to the plant.

The first step is the description of the product, which more focuses on the computer software. They have a system designed to allow users to use a regular camera that works. Then, their software comes in, which is supposed to recognize different things. It has fifteen markers set up within it to determine the specific species of the plants. The markers work by printing them and aligning them to the pages of the workbook. Once the computer is able to pick them up because of the black square and its patterns, the live video will be available for them to project a 3D vision of the plant because of the pattern of the squares, which can also be recognized on different things. The squares don't have to be exactly on something it is just once they're recognized, they are ready.

Then, is the developmental process, which needed scientists, educators, and artists to create an accurate representation of the plants that are being shown within this program that they have created. This involved software architecture to present the actual picture/ figure of the plants. The main goals were to get the video input from the camera, apply 3D graphics, and be able to present the display on a video stream. In order for that to happen, they needed graphics development as well. For the plants to have an accurate representation, they needed to be connected to shapes and colors for the outcome to be right.

4. Conclusion

Lastly, they found that this application was easy. Their goal was to just make a magic book for people to connect with the plants. They showed that technology is commonly available,

even though it may get overlooked. It's accessible and truly can offer a different type of experience than just reading a simple 2D textbook.

They plan to expand this technology onto different forms, such as phones and tablets so that everyone can experience the different interactive 3D graphics. They also believe that AR applications should even expand into museums, giving the experience a different feel. Seeing something flat and seeing something like it is real could give you a different perspective and appreciation for that very thing you're looking at.

5. Relevance to your question

This helps contribute to our paper by giving us a different perspective of the plants and could change how we feel about them. Being able to look at the plants virtually kind of gives a different connection than reading about the connection between enslaved people and plants. We can be in a different realm and get a feel of what it would be like to be around these different plants or different things of that nature. Seeing it differently can show us how there is a connection between people and plants, and having that plant right in front of you can give you a different feel than seeing just a picture. Helps put us in a different pair of shoes and give a perspective of the connection that can be felt between the two

6) Research Paper Analysis (Kyra)

1. Article information

Lori A. Perine, Rajesh Kumar Gnanasekaran, Phillip Nicholas, Alexis Hill, Richard Marciano, "Computational Treatments to Recover Erased Heritage: A Legacy of Slavery Case Study (CT-LoS)", *2020 IEEE International Conference on Big Data (Big Data)*, pp.1894-1903, 2020. [Show Article](#) [Google Scholar](#)

2. Introduction to paper

This research article talks about the archives of Maryland. The University of Maryland planned to digitize the archives of the free and enslaved African-American people. They were seeking to help tell the untold story of the enslaved people around that area. This also talks about the ethical concerns in research and how to navigate it. Though the digitizing of the articles don't really fall into our research question there are some good

3. Evaluation of data/evidence

This article focuses on the University of Maryland's collaboration with the MSA objectives to tell the story of enslavement and freedom and to promote contributions, influences, and triumphs of Black populations in Maryland. To provide understanding about how computational methods can be used to enhance engagement with information in their archives. This article is talking about case studies surrounding this topic of digitizing archives on enslaved and free African-Americans. One of their methodologies is a data flow pipeline, which is a workflow composed of computational exploration and analysis of datasets. The findings of the study revealed that computational tools, when applied with an understanding of socio-cultural contexts, can significantly enhance the study of historical records, especially in terms of uncovering hidden relationships within the data. By utilizing social network analysis, researchers were able to map connections between individuals, families, and communities across different records, shedding light on the intricate web of relationships in enslaved populations. The process of digitizing and transcribing the records also revealed previously underexplored patterns in the way enslaved people interacted with free Black populations and the broader society.

In addition to the social network analysis, the study's use of visualization tools played a key role in uncovering complex patterns in the data. The researchers found that mapping the relationships between individuals and groups within the archives allowed them to better understand the social

dynamics of slavery. Visualization tools such as graphs and timelines provided new ways of conceptualizing the historical context of slavery, illustrating the flow of people and knowledge, and highlighting how people connected and communicated in the face of systemic oppression. By making these data visual, the researchers were able to see connections between enslaved individuals that were previously invisible or obscured by traditional archival research.

For future work the researchers are hoping to make a deeper dive into the basis of this exploration, and identify areas where additional research in computational methods could enhance discovery and knowledge, particularly in collections related to slavery. The three areas are; Visualization, graphing and data bases, and ontologies and metadata.

5. Relevance to your question

This information the article presents to us is a data visualization process. This article shows us lots of good graphs but not only the graphs but also talks about different methodologies.

1) Science Communication Article Analysis (Jada)

1. Article information

Pearson, Nelson, et al. "Using social network analysis to study the social structures of inclusion." *2018 ASEE Annual Conference & Exposition Proceedings*, <https://doi.org/10.18260/1-2--31211>.

2. Introduction to the article

The purpose of this article is to study how social networking can be used as a tool to examine how different factors, such as race and gender, play a role within the first-year engineering course at a Western land-grant institution. The information being presented here is an understanding of the classroom behind the scenes and how it came to be.

3. Analysis of the information.

The intended audience of this article is educators, students, and other people who advocate for diversity and inclusion. This is informative to show/ inform people that there is a problem that could be going on and allow people to look out of a different lens rather than the one that they just live in because everybody has different life experiences. This article is written by four different types of professors at three different universities.

This article contains an experiment. Since the school was so big, the class was split up into two; within those two, in the third week, they assigned students to different groups of four or five to ensure that no one was isolated within their teams. They found that doing so helped improve their academics and their community, and it helped them come together. It brought what typically would be "smaller clusters" into the more significant community with everyone.

The data that was collected was from a survey that they gave to the students two weeks after when they did the grouping, which asked them who they interacted with during the interaction. Since the students could say that they interacted with everyone rather than being specific, that was a form of a set back. In regards to gender, they found that for "in degree" (social ties), when people include their gender, they are more likely to experience a connection to the social environment compared to the ones that didn't answer the question. Now, for "out degree," they found that gender doesn't influence "out degree"(social ties). Now for race, they found that "in degree" the overall network is inclusive to all races for the most part, even though there is a problem found within those who chose not to identify or those who are Hispanic, Asian, and white. For "out degree," they found that the values were not based on the student's race. There isn't any biased information within this they're just going off of the evidenced that is being presented to them from

4. Relevance to your question

This helps in regards to our question because it shows how much of an impact that social networking has in ways that I didn't even realize. Social networking can be in different forms rather than just one and still have an outcome that helps other people.

2) Science Communication Article Analysis (Kyra)

1. Article information

Gnanasekaran, Rajesh Kumar, and Richard Marciano. "Piloting Data Science Learning Platforms through the Development of Cloud-Based Interactive Digital Computational Notebooks." *Proceedings of International Symposium on Grids & Clouds 2021 — PoS(ISGC2021)*, Sissa Medialab, 2021, p. 018. DOI.org (Crossref), <https://doi.org/10.22323/1.378.0018>.

2. Introduction to the article

The article's primary goal is to illustrate how iDCNs (Iso document control numbering system) can be used to enhance the accessibility and interpretability of sensitive, culturally rich datasets like the LoS collection. This allows users like educators and students to explore and analyze the data in an interactive, dynamic way. Through the integration of data visualization tools and natural language processing techniques within these notebooks, the paper aims to promote the recovery of "erased" histories and enable a deeper understanding of the African American experience during slavery. The authors also emphasize the importance of a multidisciplinary approach involving archivists, historians, computer scientists, and technology analysts to ensure that the data is processed and presented with the appropriate historical and cultural context. The intended audience for this article is primarily educators, scholars, and students in the Humanities, Arts, and Social Sciences, as well as those in interdisciplinary fields, digital humanities, and archival science.

This piece is both informative and educational. It aims to inform readers about a new methodological approach for analyzing historical data through digital computational tools. The article highlights the collaborative, multidisciplinary approach that was necessary to make this project successful. The team, which included historians, archivists, data scientists, and

technology analysts, worked together to ensure that the dataset was properly contextualized and that the computational methods were applied in a way that respected the historical sensitivity of the data. The author aims to use these resources help students, educators and researchers across the world to leverage them and get benefitted from them. The authors explain the step-by-step procedure of downloading, cleaning, and analyzing the Los dataset, as well as the use of jupyter Notebooks to integrate computational analysis with historical study.

Section 5: Graphing

We have five major topics we are focusing on in relation to our research question, which are comparison, population, intervention, timeline and outcome. Population: The population that we are focusing on is the people that we can educate on the historical connections between enslaved people and garden practices. Intervention: Our intervention is using a social network analysis to compare and contrast our topics Comparison: We are trying to compare enslaved people's practices versus original garden practices. Outcome: Our hopeful outcome is to use the results from our social network analysis to create some educational efforts within the Missouri Botanical Garden. Time: We plan on breaking up our final project and finishing it in seven to eight week.

Our research question- “How can social network analysis be utilized to map historical connections between enslaved individuals and garden practices, and how can we leverage these findings to inform contemporary educational initiatives?”

- **Our research aims to understand how social network analysis can reveal historical connections and then leverage those findings to create educational programs or exhibits that inform the public about these connections.**
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