Women of Heresies – A Database for the Analysis of the Social Network around the Heresies Magazine, 1977-1993

[redacted]

Introduction

The Heresies Magazine was feminist magazine published from 1977 until 1993. The authors as well as publishers of Heresies were involved in the art world as well as the political and feminist discourse and formed one of the centers of the feminist scene in New York City at the time. Each issue focused on a different topic (spirituality, racism, women in theater etc.) and was created by a different group of volunteers, called “Issue Collectives”, under the guidance of the “Mother Collective”, in which members largely remained constant. In the magazine, many of the articles published reference notable feminist writers and works that were influential to the feminist movement of the time.
With a total of 27 issues, there is a large network of feminist authors and artists that contributed to the magazine and shaped the New York City feminist scene of the late Seventies to early Nineties. Luckily, this network can be retraced as all issues have been archived and made available online.

Research Questions and Motivation

This project aims to create a comprehensive database of women involved in and connected to Heresies in order to be able to answer the following questions:

- What did the NYC feminist network around Heresies look like at the time? Which women were connected to each other?
- Which notable feminist writers and works were referenced the most in the magazine?
- Which women were most active in Heresies?

While the Heresies network seems large and widespread at first glance, we want to find out who the key figures of the magazine were as well as what works influenced the magazine the most as this could give insight into the most prevalent theories and schools of thoughts in NYC feminist circles at the time.

The end goal is a database that is able to visualize the network or parts of the network and can also be queried based on timeframes, authors, etc. and can therefore not only answer our questions, but also be helpful to other researchers. To make this possible, this project uses the software Neo4j to create a database and visualize and query the data. In a further step, this database was envisioned to be represented in an interactive website.

Data Collection

For the data collection, the website www.heresiesfilmproject.org was integral. The site contains scans of every single Heresies issue in the form of PDF files as well as article indices in the form of Excel tables. Since the PDF files are not machine-readable, it was necessary to manually go through every single issue to filter out authors, articles and references, organize the data in Excel tables and assign unique IDs to what would later become the nodes of the network graph. As Heresies Magazine has 27 issues with 100 pages each on average, this was the most time consuming part of the project. The article indices made it possible to work more efficiently as they had already extracted authors, articles, and other information, but

unfortunately were incomplete and needed to be double-checked. The references had to be entirely manually extracted which was exceptionally time consuming.

Eight different tables were created and stored as CSV-files:

- authors (includes artists)
- works (articles and artwork)
- referenced_authors
- referenced_works
- referenced_sources (sources works like articles, book chapters etc. are contained in)
- issue_collectives
- ic_members
- mc_members

Each of these tables would later be used to create one type of node. The tables also contain relevant data that would be used to assign properties and create relationships between the nodes. Each node is given a unique identifier (ID) in order to make the data identifiable and enable the establishing of connections between the data points.

Many works have several references, meaning there are a lot of duplicate entries especially in the authors and works tables. At the same time, most works do not have any references at all, resulting in a large number of null values being present in our data. This needs to be considered when loading the data into Neo4j.

author_final

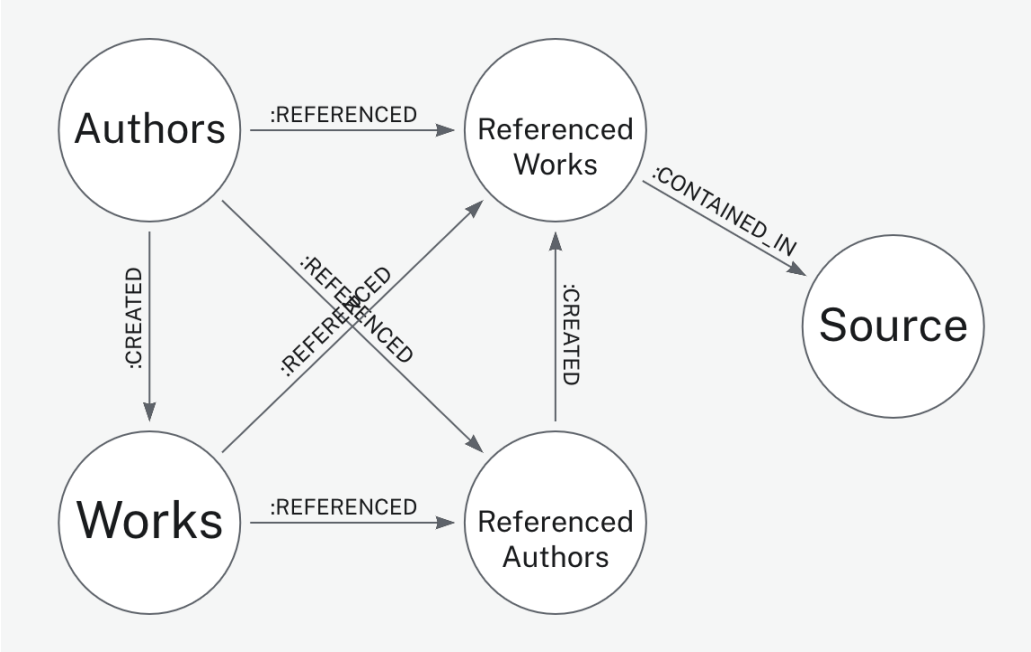
row	author	author_id	work_id	referenced_author_id	referenced_work_id	referenced_source_id	ic_id
0	Martin, Mandy	10000	20000	NULL	NULL	NULL	50000
1	Braderman, Joan	10001	20001	NULL	NULL	NULL	50000
2	Hess, E.	10002	20001	NULL	NULL	NULL	50000
3	Hammond, Harmony	10046	20001	NULL	NULL	NULL	50000
4	Ladden, Arlene	10023	20001	NULL	NULL	NULL	50000
5	Lippard, Lucy R.	10058	20001	NULL	NULL	NULL	50000
6	Stevens, May	10016	20001	NULL	NULL	NULL	50000
7	Ehrenreich, Barbara	10003	20002	NULL	NULL	NULL	50000
8	Rosler, Martha	10004	20003	NULL	NULL	NULL	50000
9	Cockcroft, Eva	10005	20004	30066	40066	NULL	50000
10	Green, Vanita	10006	20005	NULL	NULL	NULL	50000
11	Yasko, Caryl	10007	20006	NULL	NULL	NULL	50000

1 CSV-file used to create "authors"-nodes

Shown above is the head of the author table, which includes the name of the author in question, their unique ID, and all IDs that are needed to later create the relationships; we did not end up using the ic_id (Issue Collective ID) to establish a relationship in this case, as we eventually decided to deal with the Issue Collective and Mother Collective separately as explained below, but it was left in for the sake of completeness. The gaps caused by non-existent references were filled with null values. All tables have a structure similar to this.

Since this project is focusing on (re-)creating a network and connections between data points are essential to our research questions, the software Neo4j was chosen since it makes visualization of the graph as well as querying the datasets previously created possible.

The following graph, created using Neo4j Data Importer, shows the database schema that was decided on:



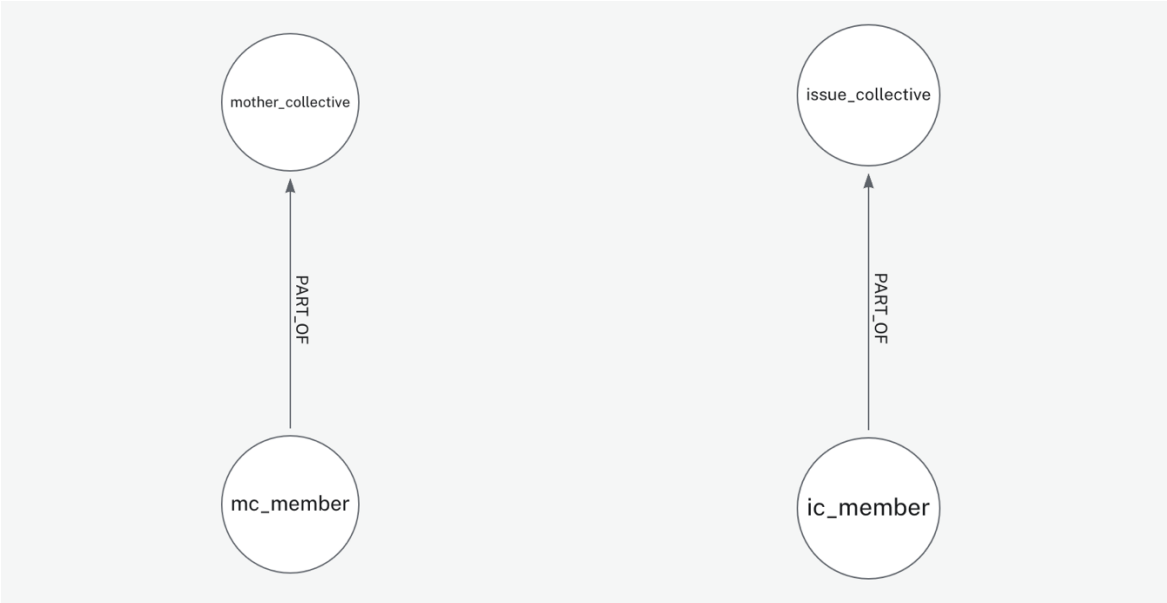
2 Database schema created in Neo4j Data Importer

A compromise that had to be made was the inclusion of feminist theories and predominant feminist discourse currents that referenced and discussed in the articles. Since this would require a close reading and interpretation of each article, it was unfortunately outside of the scope of this project, but could be done in further research, possibly using OCR as well as qualitative and quantitative text analysis.

In the end, we decided on the nodes and relationships shown above which are most integral to representing the network of writers and artists around heresies. Relevant properties are the publishing years for the referenced works and their sources as well as a TRUE/FALSE Boolean value for the works, showing whether or not they can be classified as a “traditional” text (TRUE), such as articles or something else (FALSE), such as poems, photographs, artworks or collages.

As mentioned above, the issue collective data as well as the mother collective were collected separately and loaded in separate Neo4j graphs. On the one hand, women partially were authors, issue collective members as well as mother collective members and on the other hand some were members of the issue and mother collective, but were not published in the magazine as authors.

To avoid double and triple naming of women in the dataset as well as circumventing missing collective members who were not published as authors, we decided to build a Network separately to the contents of the magazine. Additionally, the issue and Mother Collective embody a superordinate level of the Heresies network, because they constitute the ideological and creative orientation of the magazine per se.



3 Database schemas created in Neo4j Data Importer

Creating the database

To create the database, all eight tables were loaded into Neo4j separately using the following code:

```
LOAD CSV WITH HEADERS FROM 'file:/work_final.csv' AS row FIELDTERMINATOR ';'
WITH toInteger(row.work_id) AS work_id, row.work_title AS work_title,
coalesce(toBoolean(row.traditional_text), false) AS traditional_text
MERGE (n:work_title {work_id: work_id, name: work_title, traditional_text: traditional_text})
RETURN *;

LOAD CSV WITH HEADERS FROM 'file:/ author_final.csv' AS row FIELDTERMINATOR
';'
WITH toInteger(row.author_id) AS author_id, row.author AS author
MERGE (n:author {author_id: author_id, name: author})
RETURN *;

LOAD CSV WITH HEADERS FROM 'file:/referenced_works_final.csv' AS row
FIELDTERMINATOR ';'
WITH toInteger(row.referenced_work_id) AS referenced_work_id, row.referenced_work AS
referenced_work, coalesce(row.publication_year, 'null') AS publication_year
MERGE (n:referenced_work {referenced_work_id: referenced_work_id, name:
referenced_work, publication_year:publication_year})
RETURN *;

LOAD CSV WITH HEADERS FROM 'file:/referenced_authors_final.csv' AS row
FIELDTERMINATOR ';'
```

```
WITH toInteger(row.referenced_author_id) AS referenced_author_id, row.referenced_author
AS referenced_author
MERGE (n:referenced_author {referenced_author_id: referenced_author_id, name:
referenced_author})
RETURN*;

LOAD CSV WITH HEADERS FROM 'file:/referenced_sources_final.csv' AS row
FIELDTERMINATOR ';'
WITH toInteger(row.referenced_source_id) AS referenced_source_id, row.referenced_source
AS referenced_source
MERGE (n:referenced_source {referenced_source_id:referenced_source_id,
name:referenced_source})
RETURN *;
```

Finally, the relationships between the nodes were created using the authors table, as this table includes all IDs.

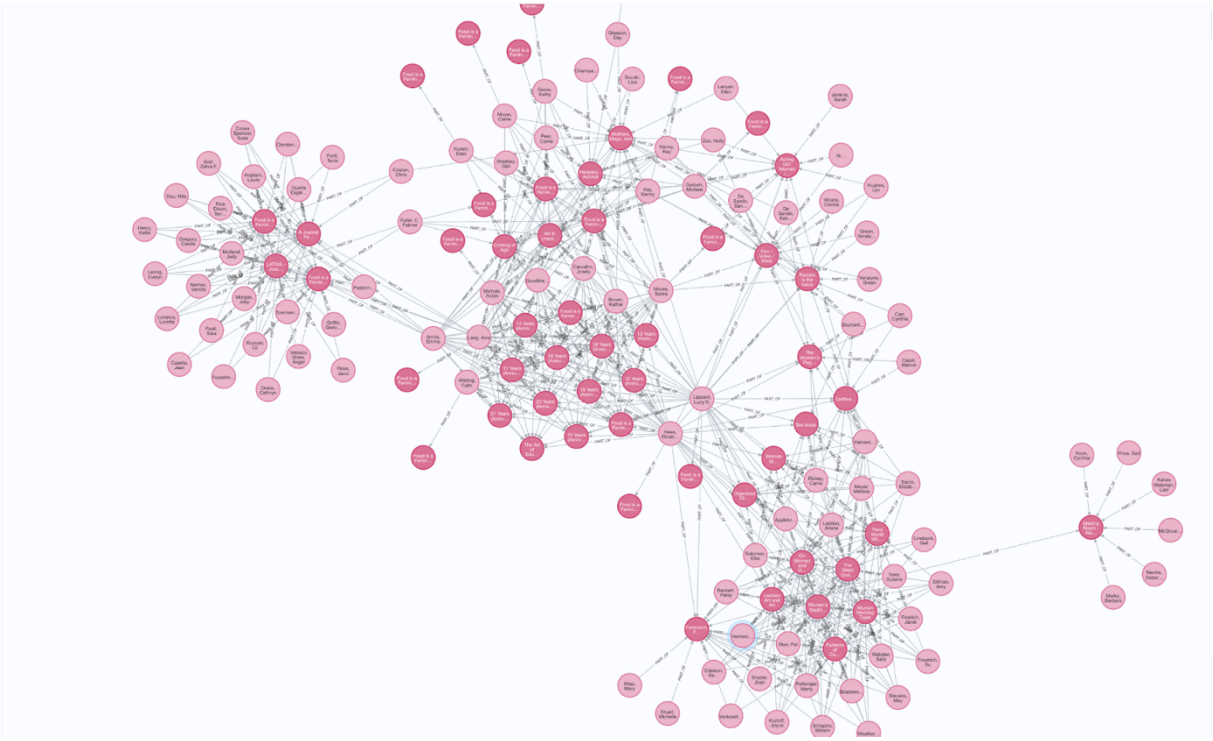
```
LOAD CSV WITH HEADERS FROM 'file:/author_final.csv'
AS row
FIELDTERMINATOR ';'
WITH toInteger(row.work_id) AS work_id,
toInteger(row.author_id) AS author_id,
toInteger(row.referenced_author_id) AS referenced_author_id,
toInteger(row.referenced_work_id) AS referenced_work_id,
toInteger (row.referenced_source_id) AS referenced_source_id
MATCH (w:work_title {work_id:work_id})
MATCH (a:author {author_id:author_id})
MATCH (rw:referenced_work {referenced_work_id:referenced_work_id})
MATCH (ra:referenced_author {referenced_author_id:referenced_author_id })
MATCH (s:referenced_source {referenced_source_id:referenced_source_id })
MERGE (a)-[:CREATED]->(w)
MERGE (ra)-[:CREATED]->(rw)
MERGE (w)-[:REFERENCED]->(rw)
MERGE (a)-[:REFERENCED]->(rw)
MERGE (a)-[:REFERENCED]->(ra)
MERGE (w)-[:REFERENCED]->(ra)
MERGE (rw)-[:CONTAINED_IN]->(s)
RETURN *;
```

The Issue and Member Collective graphs were created using the following code:

```
LOAD CSV WITH HEADERS FROM 'file:/mc_mother_collective.csv' AS row
FIELDTERMINATOR ';'
WITH toInteger(row.mc_id) AS mc_id, row.mc AS mother_collective,
toInteger(row.mc_member_id) AS mc_member_id, row.mc_member AS mc_member
MERGE (ic:mother_collective {mc_id:mc_id, name: mother_collective})
MERGE(m:mc_member {mc_member_id:mc_member_id, name: mc_member})
RETURN *;
```

```
LOAD CSV WITH HEADERS FROM 'file:/mc_mother_collective.csv' AS row
FIELDTERMINATOR ';'
WITH toInteger(row.mc_id) AS mc_id, row.mc AS mother_collective,
toInteger(row.mc_member_id) AS mc_member_id, row.mc_member AS mc_member
MATCH (mc:mother_collective {mc_id:mc_id})
MATCH(m:mc_member {mc_member_id:mc_member_id})
MERGE (m)-[:PART_OF]->(mc)
RETURN *;
```

Below, the Network of the Mother Collectives of the individual issues is displayed, the dark pink nodes represent the 27 issues while the light pink ones represent the Mother Collective Members. It can be noted that this shows a rich and interconnected network among the women throughout the years. It is important to point out that the 19th Issue “Satire” is not included, because it does not list the members of the Mother Collective.

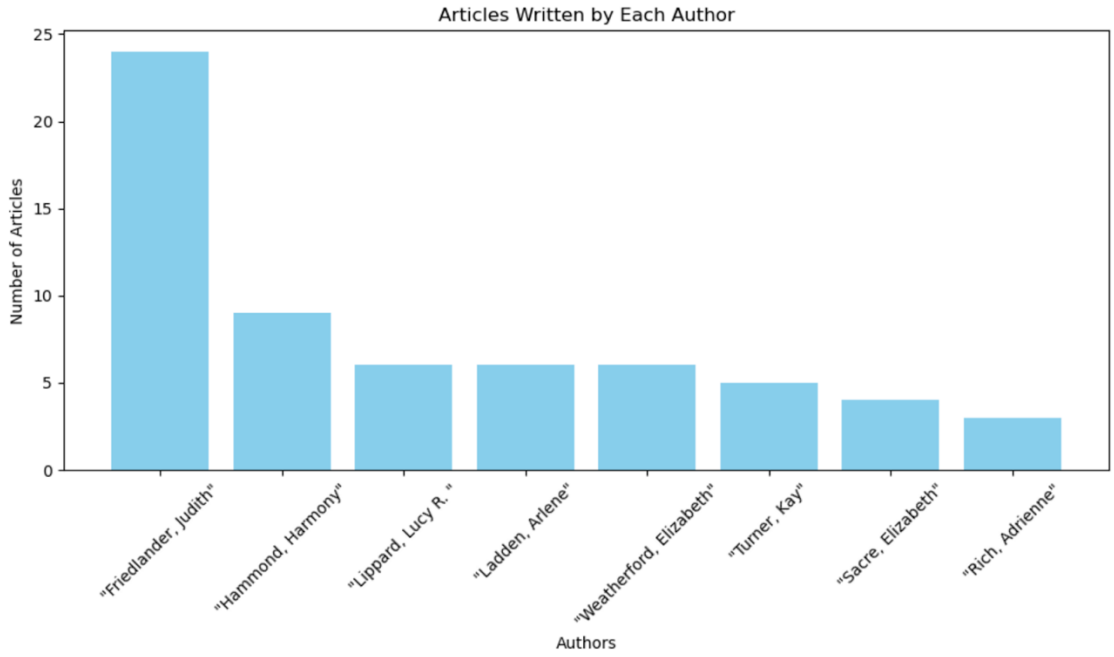


4 Neo4j network graph showing Mother Collectives and their members

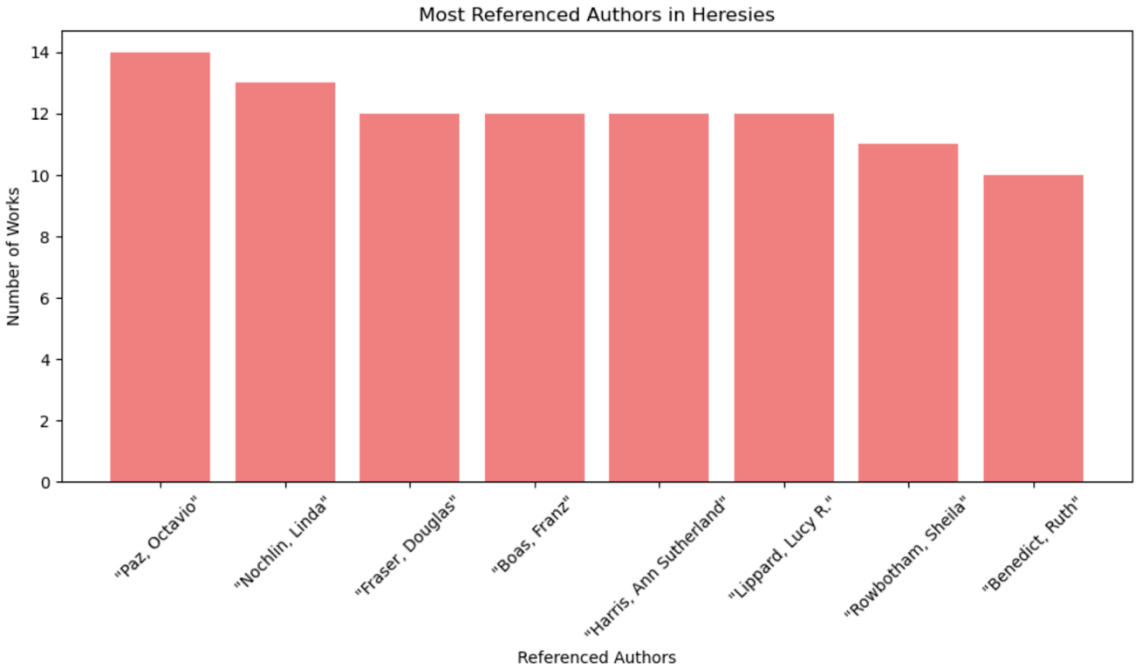
Results and sample queries

With our now completed database, we want to go back to our research questions we defined in the beginning and demonstrate how our database can be queried.

In the following graphs, we can see which authors contributed the most articles or artworks to Heresies and which ones were referenced the most throughout all of the Heresies issues. The graphs were made in python.



5 Authors with the most articles published in Heresies magazine



6 Most referenced authors in Heresies magazine

This analysis shows that not only is there a clear “winner” when it comes to the most published Heresies author – we can only speculate why Judith Friedlander wrote as many articles as she did – but we can also see that Lucy R. Lippard is amongst both the top authors and the referenced authors, meaning that the women of Heresies not only worked alongside each other, but also influenced each other intellectually. Of course, for a deeper analysis one would have to look at more than just the highest numbers amongst these data points. (Note: “no name” or “null” were not taken into account for these graphs).

The queries used to find these results are as follows:

```
MATCH (a:author)-[:CREATED]->(w:work_title) RETURN a.name, COUNT (w:work_title)
AS NumberOfWorks
ORDER BY NumberOfWorks DESC
LIMIT 10
```

```
MATCH (a:author)-[:REFERENCED]->(ra:referenced_author) RETURN ra.name, COUNT
(a:author) AS NumberOfReferences
ORDER BY NumberOfReferences DESC
LIMIT 10
```

Overall, the numbers of authors, works, referenced authors and referenced works all range between 1,200 and 2,000. Combined with the fact that the vast majority of authors and referenced authors can only be found once or twice throughout all 27 issues of Heresies this suggests the themes and theories represented in the magazines are extremely diverse and the Network around Heresies is very large and widespread. There are few recurring authors, additionally, no one was published in every single issue.

The database can of course also be queried based on a specific name of a person or work:

```
MATCH (a:author)-[:REFERENCED]->(ra:referenced_author {name: "Rowbotham,
Sheila"})
RETURN *;
```

Additionally, it can also be queried which women were the most active in the Issue and Mother Collectives.

```
MATCH (m:ic_member)- [:PART_OF]-> (ic:issue_collective) RETURN m.name, COUNT
(ic:issue_collective) AS NumberOfIssueCollectives
ORDER BY NumberOfIssueCollectives DESC
```

```
MATCH (m:mc_member)- [:PART_OF]-> (mc:mother_collective) RETURN m.name,
COUNT (mc:mother_collective) AS NumberOfMotherCollectives
ORDER BY NumberOfMotherCollectives DESC
```

Sue Heinemann was part of the most Issue Collectives, while Lucy R. Lippard was part of the most Mother Collectives listed in the 27 Issues of Heresies Magazine.

	m.name	NumberOfIssueCollectives
1	"Heinemann, Sue"	11
2	"Hess, Elizabeth"	9
3	"Moore, Sabra"	9

7 Women who were part of the most Issue Collectives

	m.name	NumberOfMotherCollectives
1	"Lippard, Lucy R."	34
2	"Hess, Elizabeth"	33
3	"Lang, Avis"	24

8 Women who were part of the Constellations of the Mother Collective

Of course, these are just a few superficial explorations of the data we've collected, and a much deeper analysis would be the end goal. However, as this would go beyond the scope of this report, we simply want to exemplify how to use our database and how such an analysis could be done.

Ethical and Legal Issues

All of the data used in this project is available on the official website of the Heretics Film Project, a documentation about Heresies that was released in 2009. No sensitive or personal data is used.

Conclusion

In conclusion, the Heresies network is a fascinating and widespread web of dedicated authors and artists with a somewhat constant core which was active during a very eventful time in New York City. It not only was influenced by events and predominant feminist theories, such as Simone de Beauvoir, Sherry Ortner, Shulamith Firestone and Sheila Rowbotham, according to our data, but also influenced the feminist discourse and inspired the feminist Art Scene.

Especially rewarding was the communication and collaboration with Crescent Diamond who directed the documentary released in 2009 as well as Tatjana Schäfer who is currently writing her PhD Thesis on the painters of the Heresies Network.

Further steps

A further step after finishing this project will be to get into contact with Rutgers University in New Jersey which currently holds the only archive on the Heresies Magazine and the network around it.

After possible Copyright questions are clarified, it is planned to make the data available open source via Github. Additionally, we designed wireframes for a possible website that would include a search engine, a register of the women involved as well as a data visualisation tool.