The Geography of *Geography* in Seattle Public Library

Description

Seattle Public library has a collection of books, cds, etc., centered around the topic of geography (and history) labeled with Dewey Decimal numbers ranging from 900 to 999, and there are rich **geospatial semantics** that remain to be discovered from their titles, item types and subjects. The aim of this project, *the Geography of Geography in Seattle Public Library*, is to answer several interesting geographic questions (GQs) such as co-occurrence of location mentions, relatedness between a place and an ideology and regional differences in place attractiveness. The analysis of results focuses on temporal and spatial dimensions of extracted semantics.
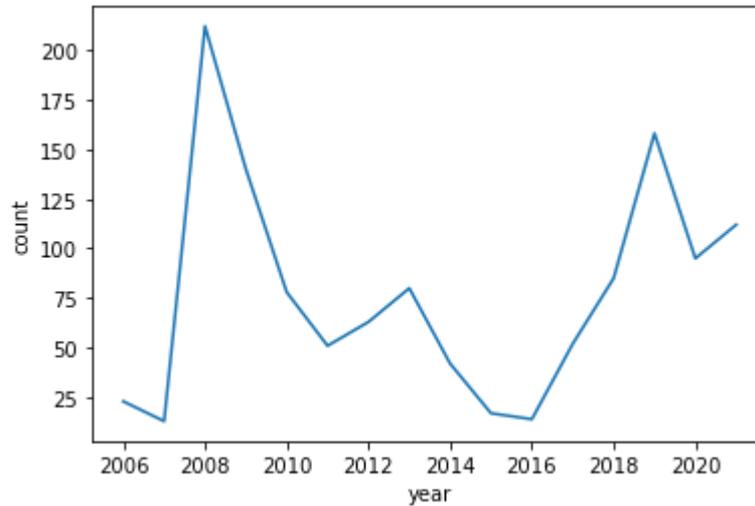
Query Search, Results and Discussion

GQ1: What are the temporal changes in the number of checked-out items whose titles involve Russia and America while subjects contain Soviet Union?

The query below extracts the annual checkout records with not only *Russia* and *America* co-occurred in the title but also *Soviet Union* as a keyword.

```sql
SELECT
    (YEAR(cout)) AS year, COUNT(*) AS count
FROM
    spl_2016.outraw
        INNER JOIN
    spl_2016.subject ON spl_2016.outraw.bibNumber = spl_2016.subject.bibNumber
WHERE
    (deweyClass >= 900)
        && (deweyClass < 1000)
        && ((LOWER(title) LIKE '%russia%america%')
        || (LOWER(title) LIKE '%america%russia%'))
        && (LOWER(subject) LIKE '%soviet union%')
GROUP BY (YEAR(cout))
```

The visualization below shows a dramatic increase in 2008 followed by a drop, and then a sudden increase again starting in 2016, which reflects a recent growing interest of readers in the relationship among a nation that has gone out in the history, a remaining largest part of it, and a country that once stands as its biggest opponent.

GQ2: What is the temporal difference in check-out records with a topic about democracy related to America compared with those about democracy related to China?
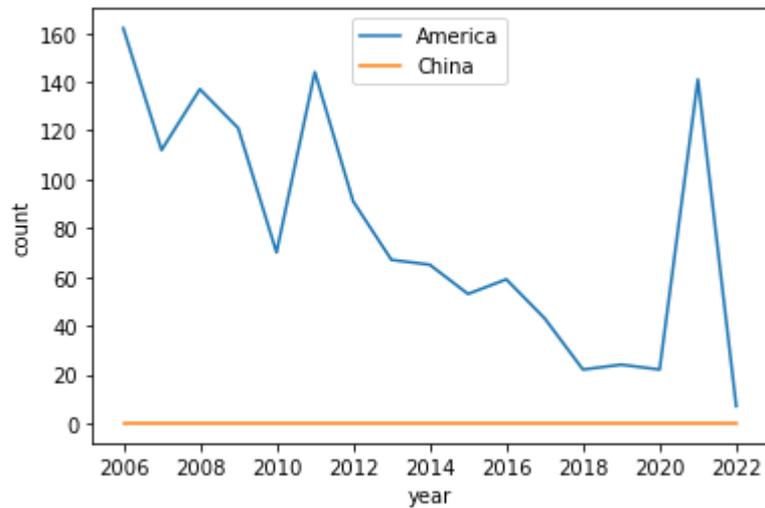
The query below extracts the annual checkout records with *America* in the title and *democracy* as a keyword. There is another query ((which is not attached in this document) used for extracting records relevant to *China*.

```
SELECT
    (YEAR(cout)) AS year, COUNT(*) AS count
FROM
    spl_2016.outraw
        INNER JOIN
    spl_2016.subject ON spl_2016.outraw.bibNumber = spl_2016.subject.bibNumber
WHERE
    (deweyClass >= 900)
        && (deweyClass < 1000)
        && (LOWER(title) LIKE '%america%')
        && (LOWER(subject) LIKE '%democracy%')
GROUP BY (YEAR(cout))
```

After a decrease (with flunctuations in some years) for a decade since 2011, there is a prominent increase starting in 2021 in check-out items about democracy related to America. What is even surprising is that no single check-out record about democracy related to China can be found ranging from 2006 to 2022. There are implications behind the increasing interest in American democracy starting in 2021, and there might be a lack of understanding of English readers about how theories of democracy have been put into practice in other parts of the world.

GQ3: To what degree are geographic biases contained in geography- (and history-) related check-out items?

The query below extracts the number of checkout records with respect to several densely-populated continents, including *Asia*, *America*, *Africa*, *Europe* and *Australia*.

```sql
SELECT
    SUM(CASE
        WHEN (LOWER(title) LIKE '%asia%') THEN 1
        ELSE 0
    END) AS 'Asia',
    SUM(CASE
        WHEN (LOWER(title) LIKE '%america%') THEN 1
        ELSE 0
    END) AS 'America',
    SUM(CASE
        WHEN (LOWER(title) LIKE '%africa%') THEN 1
        ELSE 0
    END) AS 'Africa',
    SUM(CASE
        WHEN (LOWER(title) LIKE '%europe%') THEN 1
        ELSE 0
    END) AS 'Europe',
    SUM(CASE
        WHEN (LOWER(title) LIKE '%australia%') THEN 1
        ELSE 0
    END) AS 'Australia'
FROM
    spl_2016.outraw
WHERE
    (deweyClass >= 900)
        && (deweyClass < 1000)
```

The map below shows that items in the domain of geography (and history) are more likely to be checked out for America (with 326765 records), Europe (with 71284 records) and Africa (with 47656 records), compared

with Asia (with 14879 records) and Australia (with 14583 records). Therefore, there are regional preferences for learning geographic knowledge about the Western world.