The Contour of Library Materials about Macau: A Bibliometric Profile on the World Stage

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Abstract: Using the U.S. Library of Congress online catalog as the data source and employing data mining techniques, this research presents a multi-facet bibliometric profile of Library Materials about Macau (LMAM), which can be considered a major part of Macao Studies. It is found that the body of literature of LMAM is described by 1,257 subject headings that contain either the word Macau (1,200) or Macao (57), indicating a vast spreading of subject areas. Of the 1,977 titles retrieved using these subject headings, about 90% of them are books or periodicals, most of which (79.6%) are published in China, with a total of 56% of them written in Chinese. Others are mainly in Portuguese and English. Of the 793 named authors found, 81% of them produced 1 title. An author with 3 titles resides in the top 5% of prolificacy. The most productive personal author is Manuel Teixeira (31 titles), while the most impressive corporate author is the Special Administrative Region of Macau, with 49 titles just under the authorship of Macau (China: Special Administrative Region), and many more with this government’s name appearing in one form or another. Finally, the publications in LMAM have shown a striking incremental trend in the last 30 years. These major figures, set against a good deal of other details, clearly show that LMAM are a highly interdisciplinary international enterprise that is accelerating to spawn. This bibliometric profile will be useful to researchers in Macao Studies.

Keywords: Macau, Macao, Library Materials, bibliometrics, profile, Library of Congress, data mining, scholarly communication

1. Introduction

Ever since the Portuguese first landed in Macau five hundred years ago, library materials about various aspects of this European enclave into China began to accumulate. Nowadays, while literature on Macau can be found in many libraries around the world, the Library of Congress (LC) of the United States is one of the largest collectors of it.

The term Library Materials about Macau (LMAM) used in this research refers to library items that are organized through Machine Readable Cataloging (MRAC), and as such, they become searchable on a library Online Public Access Catalog (OPAC). These items are authored in or out of Macau by individuals and organizations with the subject contents about or largely related to Macau. Individual journal articles, which are not accessible through OPAC, are not included in the present study.

It can be safely argued that the library items housed by LC on Macau have formed a solid, in-depth, and comprehensive world-class bibliographic profile of this interdisciplinary area of
LMAM. Based on the LC online catalog, this analytical and statistical profiling attempts to address such issues as:

- With regard to the subject areas of human knowledge covered by the existing LMAM, how many facets are there in subject classifications? In fact, the identification of the subject areas of literature about Macau means drawing a detailed semantic contour of an indispensable part of Macao Studies.
- Which subject areas are the most researched and which are the least researched? What is the rationale behind such discrepancies? In particular, why are there some areas that LMAM have not touched?
- What does the statistical curve depicting the frequency distributions of items in different subject areas look like? Can this curve help future researchers in retrieving and using Macau-related literature?
- What are the percentages of the languages LMAM have been written in? Portuguese (%?), Chinese (%?), English (%?), others (%?)
- What is the distribution of the formats: books, journals, or multimedia items…?
- Who are the most prolific authors and what are the percentages of authors who have written one title about Macau? Or two titles, three titles?
- Where are these titles published?
- What are most frequently used terms used in the titles in Chinese, Portuguese, or English?
- What is the quantitative trend in the publication of LMAM?

The answers to these questions will enable us to compile a representative bibliometric picture of literature concerning different types of LMAM. Bibliometrics is “the branch of library science concerned with the application of mathematical and statistical analysis to bibliography; the statistical analysis of books, articles, or other publications (“bibliometrics”, 2013). Bibliometrics has been widely used in scholarly communication and research data management services (Borgman, 1993; Corrall, 2013). In particular, this research is highly relevant to intercultural scholarly communication of academic research about Macau because it successfully identifies the main body and boundaries of LMAM in terms of the Library of Congress Classification Headings (LCCH), which have served as anchoring lighthouses for knowledge description and navigation. When scholars discuss certain regional studies, such as Macau Studies, they must acquaint themselves with the areas that have or have not been explored. Questions as such are answered systematically in Appendixes 1, 2. Furthermore, international scholars can establish communication with the authors in Macao Studies, as listed in Appendix 3, many of whom are still active.

At present, research studies published on journals about Macau can be readily found in such large-scale databases as EBSCOhost and ProQuest, and they touch many subject areas, such as gambling (Cheung, 2007; Wan, 2012), government (Ho, 2011; Jiang, 2011), comparative politics (Lo, 2007), foreign relations (Share, 2006; Souza, 2011), tourism (Wan & Li, 2013), education (Young, 2006; Cheng, 2012), and public health (Lau & Yin, 2011), to list just a few. Yet, the challenges of having a complete statistical analysis of every article about Macau in
journal literature are daunting, because of the difficulty in retrieving and downloading all the relevant data. In comparison, the complete data housed by LC about LMAM can be acquired, thus making the ensuing statistical analysis possible. Although this research can facilitate discovering library materials about Macau, the main purpose is not to demonstrate online search skills, particularly not for searching journal articles in this area. Searching strategies of journal articles are effectively presented by such vendors as EbscoHost or ProQuest through their portals at the following links:

http://support.ebsco.com/knowledge_base/search.php and (Ebscohost)  
http://www.proquest.com/customer-care/training-webinars/ (ProQuest)

These links are worth consulting by readers interested in journal articles about Macao Studies. In comparison, the complete data housed by LC about LMAM can be acquired, thus making the ensuing statistical analysis possible.

2. Methodology

This research is strictly data-driven. The raw data in the form of MARC records were retrieved in early May, 2013 from the Library of Congress Online Catalog through the Browse interface at http://catalog2.loc.gov/vwebv/searchBrowse.

The search requests for subject headings are:

1. Subject containing = Macau  
or  
2. Subject containing = Macao.

In addition, at http://catalog2.loc.gov/vwebv/searchAdvanced, the following search requests are issued:

1. Subject: ALL (KSUB) = Macau + Macao  
   + Type of Material = Book / Periodical or Newspaper / Film or Video / Non-Music Recording / Music Recording / Archival Manuscripts (=OR)  
2. Subject: ALL (KSUB) = Macau + Macao  
   + Language = Chinese / English / Portuguese (=OR)

The added limits for Type of Material such as Book / Film or Video are intended to zero in onto the particular types of materials from the retrieved hits in different subjects. Similarly, the language limiting terms like Chinese, English, or Portuguese are used to single out the library items in each of these languages.

More importantly, further data mining is conducted to get all the basic bibliographic records that are linked to the hits from the subject heading search. On the basis of all these processes, various statistical analyses are performed whereby the relevant findings are derived. In a nutshell, these data mining processes are depicted by Figure 1:
Figure 1 shows a data mining project to discover the knowledge structure of LMAM. Data mining, also known as knowledge discovery in databases, refers to the process of discovering interesting and useful patterns and relationships in large volumes of data (“data mining”, 2014). In fact, bibliometrics and data mining combined has been a powerful tool in knowledge discovering (Chou, 2011), enabling people to see many hitherto hidden interconnections mapped within a superficially widely spawned knowledge body, including subject classification and concentration (Pratt, 1977; Meadow, 2005).

The retrieved records amounted to a couple of thousands, an excerpt of which is shown in Figure 2.

Administrative agencies–China–Macau (Special Administrative Region)(2)
Administrative agencies–China–Macau (Special Administrative Region)–Handbooks, manuals, etc.(1)
Administrative agencies–China–Macau (Special Administrative Region)–Periodicals.(1)
Administrative discretion–China–Macau (Special Administrative Region)(1)
Administrative law–China–Macau (Special Administrative Region)(4)
Administrative law–China–Macau (Special Administrative Region)–Cases.(1)
Administrative law–China–Macau (Special Administrative Region)–Congresses.(1)
Administrative procedure–China–Macau (Special Administrative Region)(6)
Administrative remedies–China–Macau (Special Administrative Region)(1)
Advertising–China–Macau (Special Administrative Region)(1)
Aeronautics–China–Macau (Special Administrative Region)–History.(1)
Aeronautics, Commercial–China–Macau (Special Administrative Region)–Pictorial works.(1)
Aeroporto Internacional de Macau (0) See: Aomenguojijichang.
Aids to navigation–China–Macau (Special Administrative Region)–Lists (1)
Aliens–China–Macau (Special Administrative Region)–Popular works (1)
Almanacs, Brazilian–Brazil–Macau (Rio Grande do Norte)–Periodicals (1)
Americans–China–Macau–History (1)
Americans–China–Macau (Special Administrative Region) (1)
Americans–China–Macau (Special Administrative Region)–Drama (1)
Amusements–China–Macau (Special Administrative Region) (1)
Animal welfare–Law and legislation–China–Macau (Special Administrative Region) (1)
Anthropometry–China–Macau (Special Administrative Region) (3)
Antiquities, Prehistoric–China–Macau (Special Administrative Region)–Coloane Island (1)

Figure 2. An Excerpt of the Retrieved Records

Each subject heading in Figure 2 is linked to an indefinite number of MARC records. For instance, under the subject heading Administrative agencies–China–Macau (Special Administrative Region) (2), there are two MARC records, each of which represent a library item, such as a book. A typical MARC record for the public to see is given in Figure 3.

Figure 3. A Typical MARC Record

Notice that a title as represented in Figure 3 is often described by more than one subject headings in subject analysis.

Then, the records like those in Figure 2 and Figure 3 are imported into Microsoft Excel and Access, where they are processed for statistical and semantic analyses.
3. Findings

With regard to the subject areas of human knowledge covered by the existing LMAM, there exist a large number of facets in subject classifications that describe this particular area. Specifically, a total of different 1,200 subject headings containing the subject word *Macau* are found, of which 847 headings (71%) are used only once. In comparison, only one subject heading, namely, *Macau (China : Special Administrative Region)--History* is used 155 times, which is the most researched area. This means that history has been a major research perspective for the study of Macau.

A comprehensive picture of the subject headings containing *Macau* and their use frequencies are presented in Table 1:

Table 1. Frequencies of Subject Headings

<table>
<thead>
<tr>
<th>Use Frequency</th>
<th>Number of Subject Headings</th>
<th>% of Total</th>
<th>Accumulated %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>847</td>
<td>71%</td>
<td>71%</td>
</tr>
<tr>
<td>2</td>
<td>156</td>
<td>13%</td>
<td>84%</td>
</tr>
<tr>
<td>3</td>
<td>66</td>
<td>6%</td>
<td>89%</td>
</tr>
<tr>
<td>4</td>
<td>41</td>
<td>3%</td>
<td>93%</td>
</tr>
<tr>
<td>5</td>
<td>21</td>
<td>2%</td>
<td>94%</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>1%</td>
<td>95%</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>1%</td>
<td>96%</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>1%</td>
<td>97%</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>0%</td>
<td>97%</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>0%</td>
<td>98%</td>
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<tr>
<td>11</td>
<td>4</td>
<td>0%</td>
<td>98%</td>
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<tr>
<td>12</td>
<td>2</td>
<td>0%</td>
<td>98%</td>
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<tr>
<td>13</td>
<td>1</td>
<td>0%</td>
<td>98%</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>0%</td>
<td>98%</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>0%</td>
<td>98%</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>20</td>
<td>4</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
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<tr>
<td>29</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>33</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>42</td>
<td>1</td>
<td>0%</td>
<td>99%</td>
</tr>
<tr>
<td>46</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>51</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>54</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>69</td>
<td>2</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>81</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>155</td>
<td>1</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Total Subject Headings</td>
<td>1200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Reading the table from the bottom up, note that one subject heading (i.e., *Macau (China: Special Administrative Region)–History*, as noted above) is used 155 times, one is used 81 times, two are used 69 times, and so on. For the semantic details of the 1,200 subject headings and their use frequencies, see Appendix 1.

The subject search with the term (spelling) of Macao is much simpler, which means librarians and information professionals have mainly used the term (spelling) Macau in their subject analysis. Specifically, of the 57 subject headings containing Macao, one is used three times, one is used twice, and the other 55 are used only once. For more details, see Appendix 2.

A straightforward observation is that the subject description of library materials about Macau/Macao is spread extremely wide. With a title concerning Macau, there is a 70% chance that a librarian will use a different subject heading to describe its content. This shows that human cognition of a particular area of knowledge is highly volatile, if not arbitrary, as has been argued by many cognitive linguists. Namely, each person may have a different construal of an entity in the world (Verhagen, 2007). Since construal is a certain way to look at an object or event, Kim (2009) argues that construal allows one to view the same situation in a number of alternative ways. This is one of the reasons why people's opinions on the same issue can differ drastically in the real world. Although it is so, nevertheless, their conceptualization, or construal, of Macau does converge now and then, resulting in the repeated use of the same subject headings.

Therefore, if a researcher wants to do an effective bibliographic search of LMAM, s/he should use the subject headings that have higher frequencies, such as, 155, 81, 69, as listed in Table 1. In terms of a diagram, this means choosing the curve section that runs large along the y axis, as in Figure 4.

![Figure 4. The Subject Headings Containing Macau and their Frequency Distribution](image-url)
The subject headings with 0 hits do not necessarily mean that those particular sub-areas never existed in the literature of LMAM. However, subject headings with 0 hits means that there is no such publication currently in the database that can be analyzed and described mainly and individually by these 0-hit headings, as is the case of Macao International Airport. There could have been a book with this subject heading before. However, in the later subject analysis, that book must have been moved to a place under another subject heading, leaving Macao International Airport dangling with nothing attached. Therefore, when doing practical library research, a researcher should not use the subject headings with 0 returns, because the chances are that the search results will most likely generate nothing at all.

The subject headings containing Macau and Macao appear in 1,977 titles, which form the main body of LMAM. The formats mainly include books, periodicals, audio-visual materials, maps, and archival manuscripts, as in Table 2:

<table>
<thead>
<tr>
<th>Types of Materials</th>
<th>Number of Titles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>1586</td>
<td>80.2%</td>
</tr>
<tr>
<td>Periodicals</td>
<td>186</td>
<td>9.4%</td>
</tr>
<tr>
<td>Audio-visual</td>
<td>3</td>
<td>0.2%</td>
</tr>
<tr>
<td>Maps</td>
<td>180</td>
<td>9.1%</td>
</tr>
<tr>
<td>Archival Manuscript</td>
<td>4</td>
<td>0.2%</td>
</tr>
<tr>
<td>Others</td>
<td>18</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1977</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Namely, monographs take up 80.2%, followed by periodicals, which constitute 9.4% and maps, 9.1%.

With regard to the places and languages of these publications, Table 3 is illustrative:

<table>
<thead>
<tr>
<th>Place of Publication</th>
<th>Number of Titles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1573</td>
<td>79.565%</td>
</tr>
<tr>
<td>Portugal</td>
<td>122</td>
<td>6.171%</td>
</tr>
<tr>
<td>Others</td>
<td>282</td>
<td>14.264%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1977</strong></td>
<td><strong>100.000%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Languages</th>
<th>Number of Titles</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>1108</td>
<td>56%</td>
</tr>
<tr>
<td>Portuguese</td>
<td>486</td>
<td>25%</td>
</tr>
<tr>
<td>English</td>
<td>306</td>
<td>15%</td>
</tr>
<tr>
<td>Others</td>
<td>77</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1977</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Moreover, author productivity is an interesting phenomenon. From the 1,977 titles retrieved with the subject searches of either *Macau* or *Macao*, there are 793 named authors, and 81% of them (673/793) authored one title. Only one corporate author, namely, Macau (China: Special Administrative Region), produced 49 titles. The most prolific personal author is Manuel Teixeira, who wrote 31 titles. In addition, 684 titles are without an author. Further details are given in Table 4, and Appendix 3.

<table>
<thead>
<tr>
<th>Author</th>
<th>Number of Books Written</th>
<th>% of Authors</th>
<th>Accumulated %</th>
</tr>
</thead>
<tbody>
<tr>
<td>643</td>
<td>1</td>
<td>81%</td>
<td>81%</td>
</tr>
<tr>
<td>78</td>
<td>2</td>
<td>10%</td>
<td>91%</td>
</tr>
<tr>
<td>33</td>
<td>3</td>
<td>4%</td>
<td>95%</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>1%</td>
<td>96%</td>
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<tr>
<td>7</td>
<td>5</td>
<td>1%</td>
<td>97%</td>
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<tr>
<td>7</td>
<td>6</td>
<td>1%</td>
<td>98%</td>
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<tr>
<td>4</td>
<td>7</td>
<td>1%</td>
<td>99%</td>
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<td>1</td>
<td>8</td>
<td>0%</td>
<td>99%</td>
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<tr>
<td>1</td>
<td>10</td>
<td>0%</td>
<td>99%</td>
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<tr>
<td>2</td>
<td>11</td>
<td>0%</td>
<td>99%</td>
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<tr>
<td>1</td>
<td>12</td>
<td>0%</td>
<td>99%</td>
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<tr>
<td>1</td>
<td>24</td>
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<td>99%</td>
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<tr>
<td>1</td>
<td>25</td>
<td>0%</td>
<td>99%</td>
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<tr>
<td>1</td>
<td>31</td>
<td>0%</td>
<td>100%</td>
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<tr>
<td>1</td>
<td>32</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>1</td>
<td>35</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>1</td>
<td>49</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

A total of 20,126 words appear in the 1,977 titles. The two notional words that have the highest frequencies are *Aomen* (the Chinese term of "Macau," 751 times), and, of course, *Macau* (the more frequent spelling), 657 times. The term *Macao* occurs 169 times.

Finally, regarding the quantity in the publication of LMAM, there exists a striking incremental trend, particularly in the last 30 some years, showing that Macau is building up an augmenting bibliographic image in the world, as in Figure 5:
Notice that about 30 titles are not marked with the year of publication, so they are not included in the statistics.

4. Summary

As has been demonstrated by 1200+ subject headings, LMAM have touched very wide subject areas, which can be regarded as part of a solid foundation of an academic discipline of Macao Studies.

Books, periodicals, and maps constitute 99%+ of this mass of literature. Multimedia materials are rare, which means that this is a format to be greatly developed in today’s information age when almost everyone in many parts of the world owns an iPad, iPhone, or similar devices.

The low percentage (0.2%) of manuscripts mined in this research suggests that original manuscripts about Macau scattered all around the world have yet to be collected, cataloged, and presented in modern libraries, so that researchers could have easy access to them, no matter where they are.

The fact that 56% of LMAM are written in Chinese and about 80% of them are published in China warrants an argument that the Chinese are the biggest contributors in the development of
this special domain of human knowledge. Portuguese (25%), with a 6% share of the publication locations, ranks number 2. In addition, it is interesting to note that 15% of LMAM are written in English, showing the internationalization of this developing field.

Our statistics also indicate that if an author has accomplished more than 3 titles in LMAM, he will enter the range of the top 5% of prolificacy.

In short, LMAM is a highly interdisciplinary and internationalized enterprise, which definitely will continue to grow in an accelerating manner as the relationship between China and Lusophone countries continues to develop. A clear statistical contour of LMAM can certainly facilitate the scholarly communication in the emerging Macao Studies in general, which are a part of intercultural communication studies.

References


**Author Note**

Zi-yu Lin (Ph.D.) is Professor and Associate Dean at the School of Languages and Translation at Macao Polytechnic Institute. He worked at Seton Hall University from 1993 to 2006 where he was tenured and promoted to associate professor. He is on the Editorial Board of *ICS: International Communication Studies* and has published widely in library and information sciences, translation studies, and linguistics. One of his recent publications is Conceptual Similarities in Languages – Evidence from English be going to and Its Chinese Counterparts. In Kecskés, I. (Ed.) (2013). *Research in Chinese as a second language*. Boston & Berlin: De Gruyter Mouton. 235-255.

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The author wishes to express his appreciation for the assistance provided by Mr. Terence Tai (戴志業) of Macao Polytechnic Institute Library in data processing.
Appendix 1
Subject Headings Containing Macau and Their Frequencies (f=frequency, c=Number of Subject Headings)

Macau

f=155, c=1 1. Macau (China : Special Administrative Region)–History. / 

f=81, c=1 1. Macau (China : Special Administrative Region)–Politics and government. / 

f=69, c=2 1. Macau (China : Special Administrative Region) / 2. Macau (China : Special Administrative Region)–Maps. / 

f=54, c=1 1. Macau (China : Special Administrative Region) Maps, Tourist. / 

f=51, c=1 1. Macau (China : Special Administrative Region)–Economic conditions. / 

f=46, c=1 1. Macau (China : Special Administrative Region)–Guidebooks. / 

f=42, c=1 1. Macau (China : Special Administrative Region)–Description and travel. / 

f=33, c=1 1. Constitutional law–China–Macau (Special Administrative Region) / 

f=30, c=1 1. Macau (China : Special Administrative Region)–Maps, Topographic. / 

f=29, c=1 1. Law–China–Macau (Special Administrative Region) / 

f=26, c=1 1. Macau (China : Special Administrative Region)–Social conditions. / 

f=24, c=1 1. Macau (China : Special Administrative Region)–Pictorial works. / 

f=23, c=1 1. Macau (China : Special Administrative Region)–Civilization. / 


f=18, c=2 1. Chinese literature–China–Macau (Special Administrative Region)–History and criticism. / 2. Macau (China : Special Administrative Region)–Statistics–Periodicals. / 

f=16, c=1 1. Macau (China : Special Administrative Region)–Social life and customs. / 

f=14, c=1 1. Macau (China : Special Administrative Region) Biography. / 

f=13, c=1 1. Macau (China : Special Administrative Region)–Periodicals. / 

f=12, c=2 1. Macau (China : Special Administrative Region)–Politics and government–Periodicals. / 2. Portuguese–China–Macau (Special Administrative Region) / 

f=11, c=4 1. Commercial law–China–Macau (Special Administrative Region) / 2. Criminal procedure–China–Macau (Special Administrative Region) / 3. Education–China–Macau (Special Administrative Region). / 4. Macau (China : Special Administrative Region)–Economic conditions–Congresses. / 

f=10, c=2 1. Civil procedure–China–Macau (Special Administrative Region) / 2. Macau (China : Special Administrative Region)–In art. / 

f=9, c=4 1. Election law–China–Macau (Special Administrative Region) / 2. Harbors–China–Macau (Special Administrative Region)–Maps. / 3. Macau (China :
Macau (China : Special Administrative Region)–History–18th century. / 12.
Macau (China : Special Administrative Region)–History–Periodicals. / 13.
Macau (China : Special Administrative Region)–History–Pictorial works. / 14.
Macau (China : Special Administrative Region)–Imprints. / 15.
Macau (China : Special Administrative Region)–Politics and government–Congresses.

f= 4, c= 41
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Appendix 2
Subject Headings Containing Macao and Their Frequencies (f=frequency, c=Number of Subject Headings).

Macao

\(f=3, c=1\)

\(f=2, c=1\)
1. Law–Macao. / 

\(f=1, c=55\)

f = 0, c = 5

Appendix 3
The Authors and (number of titles each produced).

Aberhart, Laurence, 1949- (1) / Abrantes, M. Luisa Cunha Meneses. (1) / Abreu, Dinis de. (2) / Alarcão de Carvalho Branco, João Diogo. (1) / Almeida, António de, 1900- (1) / Alves, José Augusto dos Santos. (1) / Amaro, Ana Maria. (7) / Andrade, José Ignacio de, 1780-1863. (3) / Ansaldo, Umberto. (1) / Antkiewicz, Agata. (1) / Aomen -- li shi wen hua ming cheng xue shu yan tao hui (2002 : Macau Special Administrative Region, China) (1) / Aomen da xue. Tu shu guan. (1) / Aomen fa lü gai ge yu fa zhi jian she xue shu yan tao hui (2010 : Aomen ke ji da xue) (1) / Aomen fa zhan de ren kou tiao jian yu ren kou zheng ce yan tao hui (1994 : Aomen da xue)