

## **Title -- Cooperate and development in international resource sharing-- Interlending and document supply in China**

### **Abstract**

**Purpose** -- The purpose of this paper is to describe the experiences of National Library of China(NLC) in international interlending and document supply in recent ten years. Especially the methods and activities in improving resource sharing globally by using Interlibrary loan and Document Delivery System (ILDDS) of NLC and the cooperation with OCLC and China Academic Library & Information System(CALIS) from 2010.

**Design** --The paper overview the project that is how the National Library of China improve resource sharing nationally by using ILLNLC and “Wenjin search” from 2011 and the result of setting up cooperation with 613 public libraries in China to providing users with "one-stop" service. Describe the current status of cooperation between the NLC and CALIS. Investigate cooperation between the NLC and OCLC by using the statics from 2010 to 2016. The cooperation data sustainable growth rapidly and the amount of interlibrary loan (ILL) and document delivery services (DDS) via OCLC have more than 52 per cent of the quantity from 2012.

**Findings** -- There is a great potential of implementing in ILL and DDS cooperation in China, but the current state of copyright limitation partially limits the resource sharing environment.

**Value** – The paper presents a brief review of ILL and DDS in China based on statistics.

**Keywords**-- Interlibrary loan and document delivery services; Resource Sharing; National Library of China

## **Introduction**

Library shoulders the important mission of knowledge dissemination from the date of birth. As the basic form of information resources sharing, interlibrary loan (ILL) and

document delivery services (DDS) were the effective means of spreading knowledge and the important embodiment of library core value.

### **Document Delivery Center (DDC) of NLC**

NLC has a long history of ILL and DDS. As early as in 1927, NLC has been developing ILL. Then in 1997, interlibrary loan and document delivery center was established to dedicate to provide ILL and DDS.

The rich collections of NLC are a solid guarantee for ILL and DDS. As of December 2015, the total physical collections of NLC is 35,181,472 volumes or items, the capacity of digital resources is 1160.98TB and the number of out-sourced databases is 259. See the detail from Appendix 1.

To date, DDC of NLC has 32 well-trained librarians to provide ILL and DDS. Two of 32 librarians have PhDs, thirteen of them are Masters, and the rest are Bachelors. Half of them are associate research librarians.

### **Interlibrary loan and Document Delivery System (ILDDS)**

In order to improve work efficiency, DDC of NLC began to use Interlibrary loan and Document Delivery System (ILDDS) since 2009, and the system was upgraded in 2015. This system complies with ISO 10160 and 10161, which are the Interlibrary Loan Application Service Definition and Application Protocol respectively. The system is divided into two parts: readers login platform and staffs management module. Readers can register, search resources and submit applications from platform. The staff management module consists of user management, account management, transaction management, settlement management, data query, statistical analysis and system management module etc. The system also with online banking payment system and Alipay connection, users can directly realize the online payment and settlement. The system has realized the electronic management from the user submission request to the service completion.

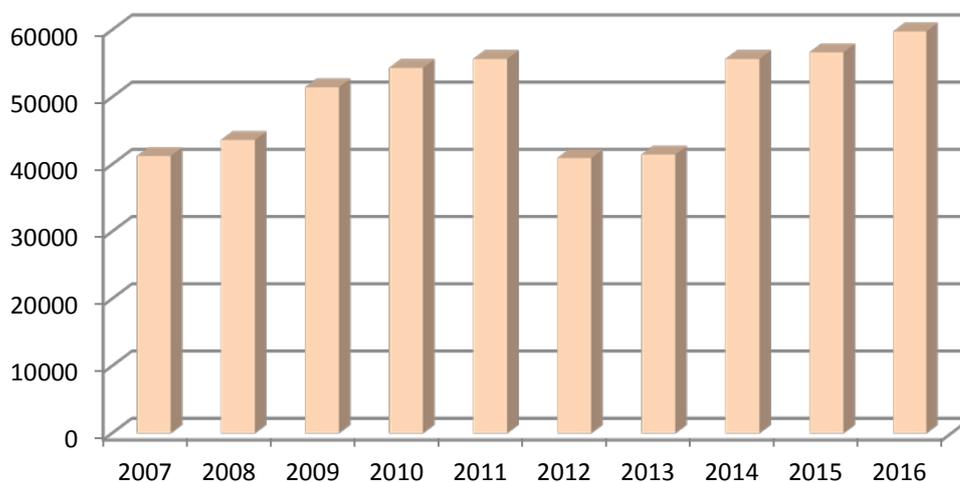
## **Service status**

### **Cover wide area and serve more users**

The transactions of ILL and DDS grew explosively after the establishment of DDC of NLC in 1997. As shown in Figure 1, the ILL and DDS transactions increased year by year except during 2012 to 2014 that the main building of NLC was closed for remodeling and the lending service for some literatures was closed.

The average annual transactions filled by NLC are 50098 in recent ten years. By 2010, DDC of NLC service network has covered 34 provinces and autonomous regions more than 600 libraries all over the country, and the NLC has become a member of OCLC in 2010 to developing international loan. To date, the NLC has formed partnerships with 603 libraries in 120 counties and regions. Service more than 200,000 users by 2016. DDC of NLC has become the world's largest Chinese literature guarantee base and the largest supply center for foreign literature in China.

**Figure 1** ILL and DD transactions filled by NLC in recent ten years



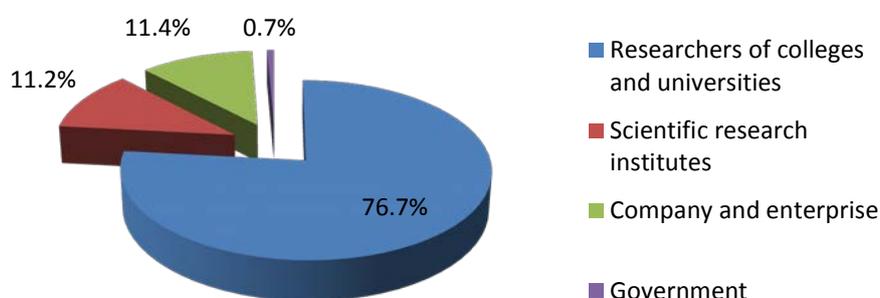
### Service to scientific researchers

Relative to reading or lending those library infrastructure services mainly in the face of ordinary readers, ILL and DDS focus on scientific researchers mainly. See the details in Figure 2, requests from colleges, universities and research institutes are more than 3/4 of the total transactions.

Due to the annual national key research projects, such as the National Natural Science fund project, the National Social Science fund projects and so on, most of them shall be presided over by colleges, universities and research institutes. Peking University, Tsinghua University, Renmin University of China and other colleges and

universities have also established the National University Science Park. Researchers in the project need to consult a large number of data in the process of research and teaching. Although some colleges, universities and research institutes have their own libraries, some document requirements of researchers couldn't be satisfied in the document system of their own libraries due to the limitation of funds and data type of these libraries. The DDC of NLC has obvious advantages in the richness of literature resources, especially for foreign literature, therefore most researchers choose the NLC.

**Figure 2** Users type of the DDC of NLC

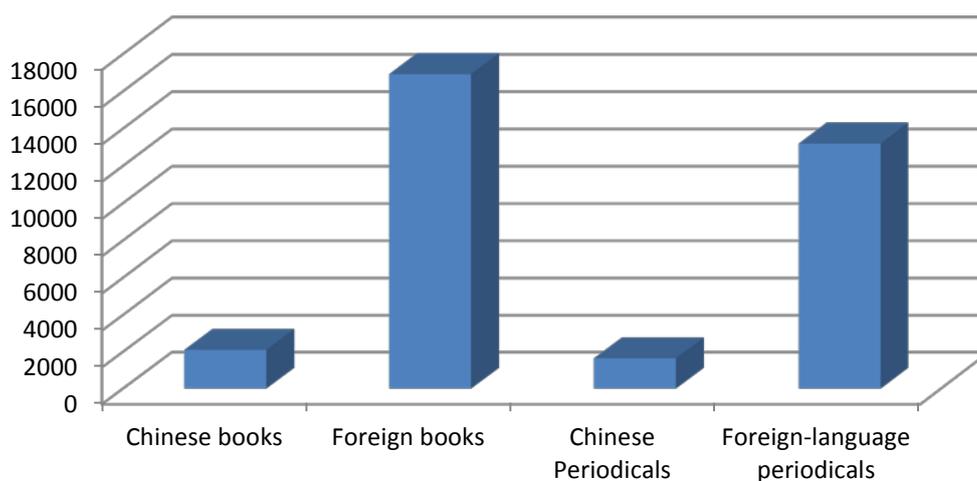


### **Focus on foreign literatures**

See from Figure 3, DDC of NLC is focus on foreign literature especially Western books, the ratio of information requirements in Chinese and foreign language is about 1:8. This highlights the important role of DDC of NLC as the largest foreign language reference center in China.

Frontier information in foreign literature has important value for scientific researchers, but ordinary readers access to the original foreign literature is difficult in China, researchers may miss the best time to tackle the research because the tedious purchasing process to buy foreign books himself. The document delivery service of the NLC just solved the demand of the domestic readers for the foreign language documents, and helped the readers to obtain the literature information in a timely and effective way, so as to carry out scientific research successfully.

**Figure 3** Volume of Chinese literature and Foreign literature in 2016



**Focus on documents which are difficult to obtain in the market**

Many documents through ILL and DDS are mainly about books and periodicals which are difficult to obtain in the market. The main types of the documents supplied from DDC of NLC are still books and periodicals, see from Table I, accounting for about 75% of the total amount of documents delivered although the use of electronic resources in libraries is increasing. The main reason is that most of the electronic resources can be obtained by users themselves, but the old books and periodicals are difficult to obtain on the internet or market because those have not been realized electronic and can only be applied for the original text in the library.

Table I Document type of ILL and DD in DDC of NLC

Document type	2016	(%)	2015	(%)
Books	19028	41	18026	40
Periodicals	14851	32	15773	35
theses	4642	10	4056	9
Others	7889	17	7210	16
Total	46410	100	45065	100

**The Wenjin search system and ILDDS**

In the digital age, with the application of information technology in the library field, there has been a fundamental change in the ways of revealing the literature

resources. In recent years, with the maturity of search engine technology, the resource discovery system based on metadata search began to appear as a platform for Library Information Search. The resource discovery system provides a simple search operation interface similar to Google and Baidu. Users can search and obtain all kinds of library resources through a search box. This brings a new search experience to the users, so that some users who are accustomed to using the network search turn to the library resource search platform again.

At present, the mainstream commercial resource discovery system including Summon system of Serials Soltion, Israel ExLibris company released Primo system, EBSCO's EBSCO Discovery Service (EDS), Worldcat of OCLC system and etc.. Tsinghua University library and Peking University library using Primo and Summon built the resource discovery system -- "Shuimu search" and "Weiming academic search" respectively.

### **The Wenjin search system**

In order to help users more quickly, accurate and convenient access to information, NLC launched the Wenjin search system in November 2012. The Wenjin search system integrates all kinds of resources in NLC effectively, such as books, periodicals, microform, databases and so on. And this system is connected with Online Library Cataloging Center of China, so the reader could find all the public libraries collections in Wenjin. This system is a accurate authority of the unified metadata search platform, it established a distributed index, provides a high concurrency, low power consumption, provides a good user experience. It can satisfy the user's "one-stop" search requirements for all kinds of resources, and quickly obtain the required content and enjoy the convenient application services.

### **From Wenjin to ILDDS**

Changes in search methods have led to changes in the way of how the users submit applications. Using library online public catalogs, resource discovery platforms and web search engines, users find channels of resources more convenient and diversified in form. Most of the requirements that users find through these channels are sent to libraries by filling in electronic applications. Traditional forms of mail,

telephone calls or visits to the library have gradually been replaced by electronic applications submitted by network systems.

Wenjin search and OPAC of NLC support the discovery and service seamless link to one-stop service. Users use Wenjin search or OPAC finding documents, some resources can be read online or free download. If some resources couldn't be obtained online, users can submit a document transfer application directly. Users do not need to search first, and then fill in the application to the document delivery interface, just click the document delivery button in the search results(see from Figure 4 ) and submit the application to the ILDDS instead.

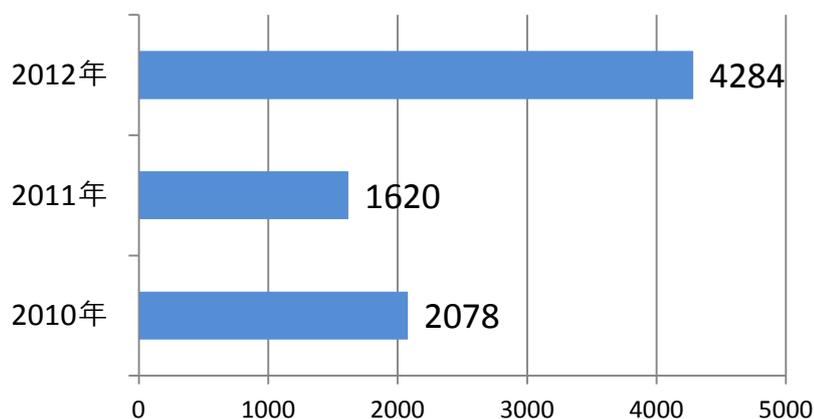
**Figure 4** Homepage of Wenjin search



The simplified search method helps users discover the literature requirements they haven't found before. Electronic applications help users reduce the time and cost of submit documents. The increase of resource discovery and the decrease of application cost have greatly lowered the threshold for users to submit applications, and the demand for documents by ordinary users has risen sharply. We can see from Figure 5, in November to December, 2012, after Wenjin search officially launched,

the total number of applications submitted from ordinary users is 4284, increased 1.6 times as compared with 2011 and 1 times as compared with 2010.

**Figure 5** Increasing of applications submitted from ordinary users in 2012



## Resource sharing

The national library is actively cooperating with other document guarantee organizations to carry out document delivery, providing users with one-stop service for national and global literature. So far, the NLC has established ILL cooperation with the BALIS, CALIS, NSTL and other librarian consortiums in China and has established cooperation with OCLC, British Library, the National Diet Library, SUBITO and Russian State Library in the world.

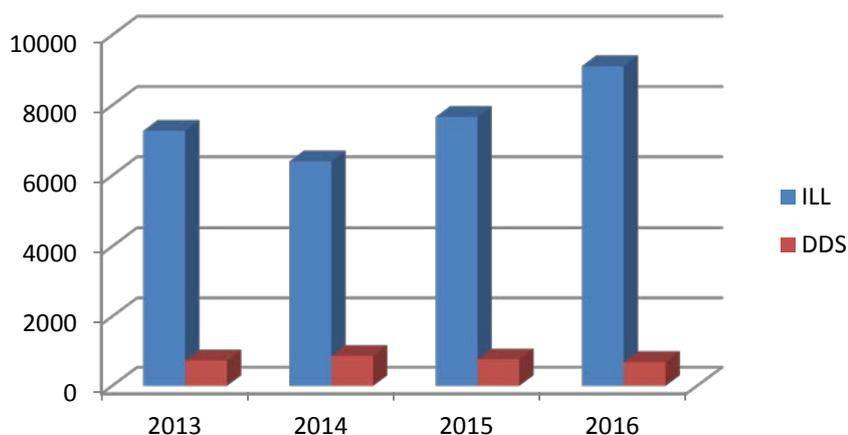
### Cooperation with BALIS

In order to make the Beijing university scientific researchers can use the resources of NLC more convenient, DDC of NLC began to in cooperation with BALIS in 2010, this provide strong support for the literature resources of higher education literature guarantee system in Beijing area.

It can be seen from Figure 6, after cooperation of the NLC and BALIS, ILL and DDS amounts are increasing year by year (except 2014 the main building of NLC was closed for remodel). In the Beijing area, the city logistics is convenient and the interlibrary loan service cost is low, so ILL application amount is about 8-10 times of

the amount of DDS.

**Figure 6** Volume of ILL and DDS of the NLC to BALIS from 2013 to 2016



The cooperation between the NLC and BALIS is not only on the ILL and DDS, but also carries out readers' information-obtaining quality training together. From 2014 to 2017, DDC of NLC and BALIS continued to carry out readers' information-obtaining quality training for 4 consecutive years. In the past four years, DDC of NLC provides many center librarians visited more than 40 colleges and universities, such as Tsinghua University, Beijing Foreign Studies University, Beijing University of Posts and Telecommunications, Beijing Normal University, Beijing Institute of Technology, University of Science and Technology Beijing and so on. Face to face, the librarians explained the resources and services of the NLC for the teachers and students, answered the specific questions in the document delivery service. The lecture activities, which lasted for one month, were warmly welcomed by teachers and students, achieved good results in cultivating users and improving service efficiency, and brought about actual application growth.

Since 2017, after the librarians of DDC of NLC have gone to BALIS to give lectures, NLC have actively promoted the mode of "Please come in" , ask the teachers and students to enter the NLC to visit and exchange with each other.

In April to May, 2017, DDC of NLC received a total of more than 230 students from ten universities of Beijing Jiaotong University, Beijing Forestry University, Beijing Language and Culture University, Beijing Normal University, Beijing University of Posts and Telecommunications, Beijing College of Politics and Law, Beijing Foreign

Studies University, China Youth University for Political Science, Beijing Institute of Technology, Capital Normal University and so on, to visit the NLC and National Museum of Classic Book, and introduce the characteristics of resources and services of NLC for teachers and students. "Please come in" promoted the services effectively, received high opinion from teachers and students at the same time.

### **Cooperation with CALIS**

NLC officially opened its cooperation with CALIS in November 23, 2013 , the users of academic libraries can obtain the resources and services of the NLC through cooperation platform in one-stop. This not only allows users to obtain more convenient documentation, but also effectively enhance the industry's resource security capabilities of NLC.As of June 30, 2017, 280 member libraries of CALIS had already conducted ILL and DDS with the NLC.

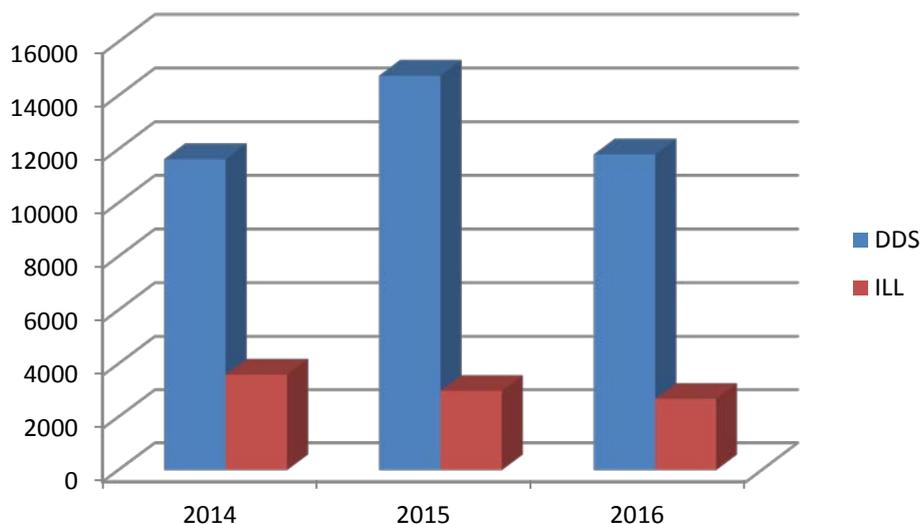
Cooperation has realized System interworking from the beginning, CALIS member library user submitted in the CALIS system application can be directly transferred in the background to ILDDS, and the user does not need to visit ILDDS to submit applications.

In order to facilitate the settlement, cooperation choose the year-end unified settlement instead of the single settlement way. Users do not care about how to put the fee paid to the NLC, but directly paid to CALIS. In October of each year the CALIS unified payment to the NLC. This is very similar to OCLC.

ILL logistics is also quite different from ordinary. General ILL is only responsible for the logistics of lending books, the logistics of the returned books shall be in the receiving Library. But in the cooperation with CALIS, DDC of NLC is in charge of round-trip logistics for both lending and returning. This mode not only facilitates the user, moreover makes the settlement easier.

The data of the cooperation between NLC and CALIS is just the opposite of BALIS, we can see from Figure 7, the quantity of DDS is much higher than that of ILL. Mainly because the member of CALIS is all over the country, the costs of logistics for ILL in different city is more higher than in same city, so the colleges out of Beijing are like to choose DDS rather than ILL.

**Figure 7** Volume of ILL and DDS of the NLC to CALIS from 2014 to 2016



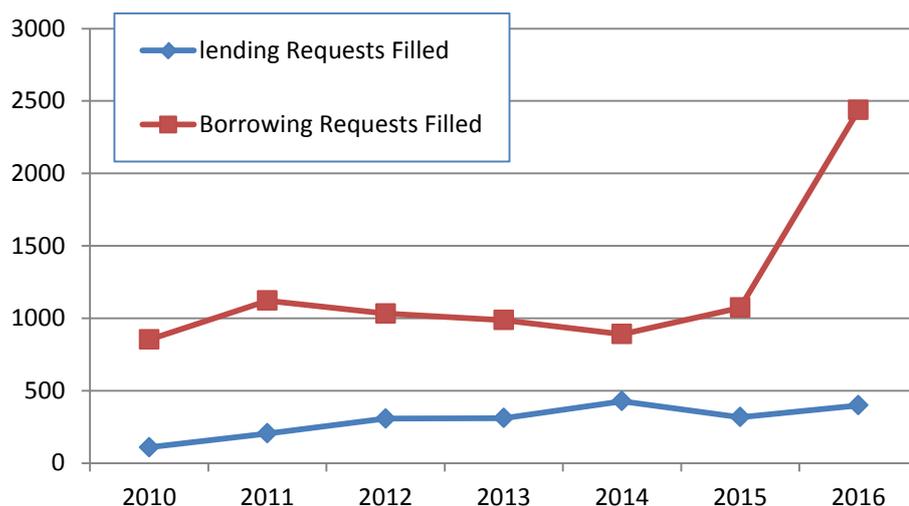
### Cooperation with OCLC

In order to improve the international loan, the NLC joined the OCLC (United States Online Computer Library Center) in 2010. Foreign users can find Chinese literature more effectively through the OCLC, and the domestic users can also received literature from all over the world, so the transactions of international loan increased rapidly from 2010. The cooperation data sustainable growth rapidly and the amount of ILL via OCLC have more than 52 per cent of the quantity from 2012.

In cooperation with OCLC, we found out the requests of lending are more than borrowing ,we can see from the Figure 8 , the annual lending requests are about 3 times the requests of borrowing, even reached as much as 7 times in 2016. This shows that the needs of users to Chinese literature in various countries are very strong and growing rapidly.

Besides OCLC, the NLC has been cooperate with the British Library, the National Diet Library, SUBITO, the Russian State Library and other guarantee institutions to establish a widely cooperative service for international loan.

**Figure 8** ILL borrowing and lending request volume and fill rate in the NLC through OCLC



## Copyright limitation

The NLC has always attached great importance to copyright protection. When readers submit applications to the DDC of NLC through the ILLDDS, they must sign the copyright protection confirmation term. There is a clear "Copyright Notice" in the reader's interface, prompt that "Reproduction furnished by National Library of China Document Supply Center should be used only for purpose of private study, scholarship, or research. If a user makes a request for, or later uses a photocopy or reproduction for purposes in excess of "fair use" specified by The RPOC Copyright Law, that user may be liable for copyright infringement." Readers can submit their applications only if they click "agree" with this Copyright Notice.

To date, China has no special library law or other laws to regulate ILL and DDS. Whether China's copyright law or the right to information network dissemination Ordinance, they all protect copyright related rights from point of the copyright holders. There are lack relevant laws for the libraries and readers as the users of literature to protect their rights, thus seriously hindered the library to play an important role in the dissemination of knowledge

## Conclusion

This paper gives a brief introduction to ILL and DDS of NLC in recent ten years, and

some differences of the services of NLC are analyzed, especially the status of the cooperation with BALIS, CALIS and OCLC. Finally, the limitation of copyright is analyzed.

Extensive cooperation makes the resources of NLC to utilizing well, but it must solve the copyright protection problem, which is an important problem hindering the utilization of literature.

## Notes

1 Information about the ISO 10160/10161 interlibrary loan protocol and subsequent updates to it may be found at [www.collectionscanada.gc.ca/iso/main.htm](http://www.collectionscanada.gc.ca/iso/main.htm)

2 Available <http://www.nlc.cn/>

3 Available [http://www.nlc.cn/newkyck/kyfw/201011/t20101122\\_11696.htm](http://www.nlc.cn/newkyck/kyfw/201011/t20101122_11696.htm)

4 Available <http://wxtgzx.nlc.cn:8111/gateway/login.jsf>

5 Available [http://www.nlc.cn/dsb\\_zyyfw/wdtsg/dzzn/dsb\\_gtzy/](http://www.nlc.cn/dsb_zyyfw/wdtsg/dzzn/dsb_gtzy/)

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