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Keywords
(separated by '-')

Chinese cultural heritage - Digitized photography - Metadata - Linked thesauri - Europeana



PAGODE – Europeana China

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Abstract. PAGODE is a new project started on the 1st of April 2020, which proposes a thematic approach for aggregation, curation and presentation of Chinese cultural content hosted in European museums and Cultural Heritage Institutions (CHIs). The project aims to offer an innovative experience by making this content available in Europeana, the European digital library. PAGODE will aggregate to Europeana more than 10,000 newly digitised objects, annotate more than 2,000 digital objects that are already in Europeana, enrich automatically the metadata of more than 20,000 records, and activate a wide range of CHIs to plan new digitization and curation of relevant content from their collections. Focusing on the various forms of the presence of Chinese culture in Europe, the overall objective of PAGODE is to add further value to CHIs that own Chinese collections, to reach new end users, and to encourage creative use and reuse of cultural content in the domains of multicultural integration, cultural tourism, education and research.

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1 Introduction

In the frame of the effort to leverage digital Cultural Heritage (CH) in answering the new challenges posed by the globalization of cultures and the creation of new cultural connections, a new project was recently awarded by the European Union named PAGODE Europeana China. The project focuses on highlighting the CH held by European institutions, which represent the flows of people, objects and knowledge between Europe and China. The exchanges that took place across time, along the Silk Road and over the seas, established cultural, economic and societal relationships that are still relevant nowadays. Those relationships and their history are attested by the artefacts, photos, books, archival records and other types of cultural heritage items preserved in European museums, libraries, galleries and archives. This rich heritage can find now its route to a digital enhancement via the PAGODE project.

The main concept of PAGODE is to allow Chinese heritage preserved in Europe to be showcased in digital form, generating rich user experiences and high audience engagement, targeting researchers, students, scholars and the general public.

The main channel used by PAGODE to give access to this heritage is Europeana, the European digital library [1].

The project is co-funded by CEF Connecting Europe Facility Programme of the European Union [2], responding to the call for Generic Services dedicated to the improvement and enrichment of Europeana. For this scope, public and private institutions that preserve content related to Chinese CH are working together to digitise photos, artefacts and books, enrich metadata and crowdsource annotations.

It is very significant that the coordinator of this project is the Italian Ministry for Economic Development. This highlights that heritage is not only a matter of culture and scholars, but it represents also a huge potential to be unlocked in the overall process of development of nations and societies, and of their economies.

PAGODE participates in the effort of lowering cultural barriers across and beyond Europe, creating unique cross-border perspectives and leveraging the benefits of digitized cultural heritage. This is achieved by connecting existing digital historical resources and by creating new digital collections, sourced both from the institutional content of archives, museums, galleries and libraries, and from personal materials collected by citizens (for example exploring family albums).

PAGODE promotes expressions of cultural diversity, engaging with a wide range of audiences, giving access to the richness of extra-European cultures, generating new multi-disciplinary knowledge, and facilitating research in the multi-faceted culture and history of Europe entering in contact with the world. In doing so, the whole Europeana concept and its surrounding environment of users and content providers is challenged to play a core and novel role.

Two main content providers are involved in the project as partners: KIK-IRPA and United Archives. KIK-IRPA is the Royal Institute for Cultural Heritage [3], based in Brussels, a Belgian federal research institute of the Belgian Federal Science Policy Office (BELSPO). The institute studies and conserves artistic and cultural assets of Belgium and is a major contributor of Europeana since its establishment. United Archives [4] is a private company based in Cologne (Germany). The company owns a large photo library that offers professional image content for editorial usage. It has a wide running digitization program and participates actively with its collections to Europeana. The two content providers are members of Photoconsortium, the international association for valuing photographic heritage, based in the area of Pisa (Italy).

Photoconsortium [5] is partner of PAGODE with the role of content coordinator. The association represents a centre of expertise and knowledge on photography, digitization, aggregation of content, metadata standards, indexing, cataloguing, controlled vocabularies, sharing best practices for management of digital archives and being acknowledged as expert hub for photography. Photoconsortium is an accredited aggregators of Europeana and, in this role, it participates in the Digital Service Infrastructure initiative of the European Commission, which supports the operations of the Europeana core service platform [6]. Through Photoconsortium, a number of associate partners from all over Europe are joining the PAGODE network to support the project and to contribute with their collections. The association was established in 2014 as a spin off of a successful digitisation project named Europeana Photography. Its members include: museums, archives, professionals and amateurs of vintage photography. In addition to aggregate

content to Europeana, the main areas of research of Photoconsortium are storytelling and curation of photographic heritage. It is active in the domains of multilingualism and linked data to improve searchability and interlinking of digital CH resources. Projects like PAGODE are in the core business of Photoconsortium, to deploy and build up new expertise, and to act as a multiplier of knowledge transfer from and towards the network of its members.

Two highly active SMEs participate in the consortium with specific technical roles: Promoter S.r.l. in Italy and Postscriptum Ltd. in Greece. The former is the technical coordinator of the whole project, steering the implementation towards its general objectives. Furthermore, Promoter leads the project's communication activities and the dissemination initiatives that aim to prepare for the future sustainability and exploitation of the project's results. The latter is in charge of developing the liaison of PAGODE with Chinese CHIs, benefitting of its role of official representative of the Europeana initiative in China. The two SMEs collaborate in the EastMeetsWest initiative, whose first instance is the EastMeetsWest in Greece initiative [7], coordinated by Postscriptum, with the participation of Promoter.

The Department of Asian Studies of the University of Ljubljana [8] completes the PAGODE consortium. Its expertise enables a critical understanding of the main cultural determinants of the Chinese culture in their social and historical context, and supports the creation of a scientifically sound semantic background for the whole project (1).



Fig. 1. A trip to China, Carl Simon, 1920, © United Archives.


2 A New Project for Cross-Cultural Exchanges

PAGODE proposes a thematic approach for the aggregation, curation and presentation of the Chinese culture related content that is hosted in European museums and CHIs, ranging from societal topics, to fine arts, science, and applied arts.

The project will aggregate more than 10,000 newly digitised objects to Europeana, including photographic collections, digital representation of artworks and paintings, books and manuscripts. Furthermore, it will annotate and enrich the metadata associated with more than 2,000 digital objects that are already in Europeana, experimenting with new forms of crowdsourced annotations and interlinking in a dedicated pilot that involves scholars, researchers, curators and non-professionals practitioners. Finally, it will enrich automatically the metadata of more than 20,000 digital objects that are in the Europeana database, by adopting Artificial Intelligence and Natural Language Processing technologies.

PAGODE team members are already at work since April 2020, tackling the following six main objectives.

First objective:  aggregate new content of Chinese cultural heritage to Europeana and to hook up with data that are already in Europeana. New collaborations are established with content providers and Europeana aggregators, at different levels, national, thematic and domain ones. New technical information is integrated in the curation processes of the existing datasets, highlighting links between Europeana content and Chinese culture.

Second objective:  increase discoverability of Chinese content and collections in Europeana. This is achieved via an annotation methodology, based on crowdsourcing, to be validated in a real-life pilot.

Third objective: To bring more Chinese collections into Europeana, according to the requirements of the Europeana Publishing Framework [9]. In particular, new content is provided in compliance with the technical and rights conditions of the so-called ‘Tier 4’ specification that requires that digital objects are available in high-resolution and for free use and re-use.

Fourth objective: To reach the professionals of the CH sector with a rich program of dissemination, awareness raising and capacity building activities, including organization of workshops, participation in professional events, and the organisation of an international conference in Brussels planned for the end of September 2021.

Fifth objective: To promote user engagement in multiple forms, on the social media, through crowdsourcing and with exhibitions. This aims to facilitate cultural exchanges among European and Chinese CHIs, encouraging professionals and non-professionals to become users of Europeana, for education, research, social integration and cultural tourism purposes. In particular, a travelling exhibition will premiere in Pisa hosted by the Museo della Grafica [10], in September 2021.

Sixth objective: To open cultural connections to China. Encounters and debates will discuss how a richer reciprocal knowledge of our cultures can support profitable economic exchanges. Sino-European dialogue is necessary to support the development of a harmonious Sino-European political and economic relationship and needs to be fostered through mutual understanding of cultural notions [11].

Focusing on the various forms of the presence of Chinese culture in Europe, PAGODE is adding further value to CHIs that own Chinese collections. PAGODE promotes further understanding of the cultural values of China and the cultural exchange between China and Europe. This allows CHIs to connect and share their collections and metadata across new sectors and borders and, in this way, to increase awareness and usage of Europeana to a wider audience, internationally.

The project's originality lies in the creation of a framework for a holistic overview of all Chinese collections within the scope of the pan-European area. As such, it offers the foundations for further scholarship in this field. Even more important, PAGODE is developing instruments for the reinterpretation of questions about circulation, trade, collection and display of Chinese art in modern Europe. Offering novel interpretations of Europe-China relationship from the historical and contemporary perspectives, the results of the project can accompany the reality of the present economic exchanges.

The project naturally wants to engage with Chinese CHIs and will do this by exploiting the power of the digital technologies. Discussions are ongoing, among professionals in the field, both in Europe and in China, about how digital technologies, high quality digitization and 3D visualization can help in allowing Chinese artefacts preserved in Europe to come back to China, “virtually”, for all Chinese people to enjoy such gems. There is a strong interest from Chinese and European institutions to find new ways of collaboration in this domain. Europeana can play a fundamental role in this process, offering a platform made of millions of CH digital objects accompanied by rich and constantly growing thematic collections. ‘Europeana China’ is the title of a new thematic collection foreseen to be published in Europeana in 2021, where the visitors will find virtual exhibitions, stories, curated digital galleries and much more. Digital galleries have already started to become available online, namely: ‘Mandarin of China’ [12] and ‘Rice cultivation in China’ [13].

The potential of digitization is also considered as a solution for challenges that CHIs experience and that are particularly relevant for China. In such a large country, with communities in hard-to-reach regions, where inhabitants often have no possibility to journey to big cities to visit museums and cultural sites, access to CH is a major issue. Moreover, remote areas often lack reliable internet access. As citizens cannot travel to meet CH, it is possible that CH travels to meet citizens, with the support of digital technologies! An interesting example of this approach dates back to 2013, when the “Mobile Digital Museum” project was launched by the Inner Mongolia Museum [14]. The Mobile Digital Museum started as a response to three main challenges: the inaccessibility of physical museums; the lack of the connection between visitors and artefacts; and, the safety of physical relics when travelling outside the museums. Most of the biggest museums are located in the centre of the big cities, and visiting them becomes both a time-consuming and an expensive activity, even for people living in the outskirts, let alone those who live in the countryside. This situation conflicts with the museums’ mission of transferring knowledge, empowering all people and inspiring citizens to embrace and respect country’s diverse heritage. Furthermore, museums serve also as knowledge and creativity centres, but, although museums engage with the use of verbal and visual aids (e.g. brochures and audio guides), visitors are often left with unanswered queries or pass through exhibitions without being truly engaged. Due to the

fact that every visitor is peculiar in their interest and preferences, it is difficult to develop a comprehensive offer able to provide all the information, histories and stories, or other content that each visitor would like to get. The Mobile Digital Museum is conceived as a futuristic truck, equipped with the most advanced digital technologies, with a custom made exterior and interior to cater to various digital requirements. It measures 13 m in length and 2.5 m in width, but by the push of a button it can extend to 5.3 m in width, thus creating a space of 45 m². A central computerized system is designed to control all the advanced interactive screens and contents of the museum. CH items are displayed on screen and accompanied with compelling interactive features such as interactive games, quizzes to increase knowledge, surveys and in-depth information. Additionally, interactive platforms allow visitors to manipulate the digital artefact freely, viewing it from all angles, zooming in to discover details, exploring how it functions, and even “holding” the 3D printing of valuable artefacts in their hands, which would never be possible with the actual physical relics. By traveling to remote areas, addressing schools and underprivileged communities, the Mobile Digital Museum approached visitors in an innovative way. This is just one example of how high-quality digitization and 3D visualization can help engagement with CH and access without borders.

3 Past and Future of a Collection

One typical story of a Chinese collection preserved in Europe is that of the Slovene Ethnographic Museum, one of the PAGODE associate partners. The Museum houses the largest number of Chinese objects in Slovenia. Among these, the Skušek collection is the most notable for its size, variety and prestige. It contains around 500 objects ranging from paintings, figurines, ceramics and porcelain, lacquered objects, textiles, musical instruments, coins, fans, snuff bottles, to larger items such as furniture and architectural models, to photographs, books and postcards.

Ivan Skušek jr. (1877–1947), an Austro-Hungarian navy officer, obtained these objects during his nearly 6-year stay in Beijing between 1914 and 1920. He arrived in China onboard of the cruiser SMS Kaiserin Elisabeth at the start of the World War I. The ship was sent to help defend the German concession in Qingdao, but they were overpowered by the Japanese and the British navies. While most crew members were transported as prisoners of war to Japan, some were put in confinement in China. As the chief supply officer, Skušek, who was sent to Beijing, was nevertheless able to freely move around the city, slowly developing appreciation for the culture and people of China, and making contacts that allowed him to purchase, store and eventually transport the 75 crates of objects back to Ljubljana. During his sojourn he also met his future wife Tsuneko Kondō Kawase (Marija Skušek) (1893–1963), who likely helped shape the collection. Upon his return, Ivan Skušek planned to open a museum in the style of traditional Chinese architecture, where he and his wife could educate their compatriots about the cultural and technological achievements of China, dispelling the negative stereotypes widely circulating in the press at the time. While this project never materialized due to financial constraints, the Skušek’s apartment became the center of cultural and social life of the Ljubljana’s intellectual and art elites [15]. Within the PAGODE project, the Museum is digitizing several visually attractive items from Skušek collection that

portray the early 20th century Beijing: a souvenir photo album with 450 images of the city and its surroundings and two lavishly illustrated studies of the imperial architecture and decorations of the palaces published by the famous Japanese photographer Ogawa Kazumasa in 1906 [16].

The case of the collection of Ivan Skušek is just an example of the impact of the PAGODE project, which offers the opportunity to content holders to enable valuable collections to be discovered and showcased to a general European public. These are highly relevant collections with equal appeal to the most famous holdings of big museums, preserved in institutions that have specialist knowledge and skills, but are less visible in the panorama of European museums. Digitization and online access are the key to expanding the outreach and thus to empower the statutory mission of sharing knowledge.

Other interesting cases are those of the valuable collections of ancient books, maps and music sheets held by Leiden University Libraries [17], and the interesting photos of Missionaries in China in the Mannheim's collections held by the PhotoArchive of the Finnish Heritage Agency [18]. Furthermore, even if more accessible to visitors, the digitization of the Chinese collections of the National Museum of World Cultures in the Netherlands [19] and of the Benaki Museum in Greece [20], and their access via Europeana, is making possible to have on display precious artefacts and documents that otherwise would have still to find their place in a digital showcase, allowing more people to engage with these collections.

In addition to the above mentioned content holders, the group of associate partners to PAGODE project includes the experts of the Digital Humanities Lab at the University of Basel, and a number of associate cultural institutions in China. Contributing their expertise in the digital transformation in the CH field, heritage and the many stories it tells are becoming more accessible to people.

4 Embarking on a Journey

The launch of PAGODE was originally intended as a double event in Rome, hosted by the coordinator at the prestigious venue of the Italian Ministry of Economic Development in via Molise. The plan was to first hold an operative meeting reserved for project partners, which was to be followed by an open event for associate partners and other stakeholders, with invited guests from Europe and China. Due to the unprecedented circumstances of the COVID-19 pandemic, the consortium was forced to change the plans. Both meetings were preserved, but eventually took place online. Already during the initial discussions, the question of “what is Chinese Heritage in Europe” became predominant. The sinologists and experts from the University of Ljubljana began defining themes and keywords that depict the concept of “Chinese cultural heritage”. To devise a suitable semantic background, the project started defining what can be considered as Chinese CH in Europe, distinguishing between “Chinese” versus “made in China” and analysing the (dis)connection between materiality and cultural connotations. Another aspect considered were the various (ex)changes related to cross-cultural contact. Travel and migration are of particular importance as Europeans in China and Chinese in Europe have contributed significantly to mutual cultural influences between the two regions. The discussion then extended to the types of objects that represent Chinese CH - tangible,

intangible, natural (especially landscapes) - and which are the examples of these types of heritage that can be found in PAGODE's partners archives. The final and crucial step has been the definition of metadata specification on which rests the correct representation of the digitized objects in online environments, especially in Europeana. Correct metadata are necessary to grant the best user experience in the search and retrieval of content, and to meet various search purposes. The project originally foresaw a dedicated workshop to be held in Ljubljana in July 2020, with the aim of finalizing the methodology and the metadata specifications for the curation of PAGODE digital content in Europeana. Due to travel restrictions, the meeting had to be reorganized in virtual format, which nevertheless did not prevent from reaching interesting outcomes.

The metadata requirements and guidelines for curation need to be integrated in the process of digitization and indexing that happens in the rooms of cultural institutions. The task of digitization is guided by KIK-IRPA in collaboration with the Digital Humanities Lab of the University of Basel, true experts about all the secrets of high-quality CH digitization. All this expertise is complemented by a Content Quality Plan, developed in the frame of the project. The Plan establishes the process for the review, improvement and enrichment of the content to be delivered to Europeana. The coordination of the entire work on content selection, digitization and delivery to Europeana is managed by Photoconsortium that makes use of the MINT mapping tool [21] developed by the Digital Cultural Heritage group at the National Technical University of Athens, to perform the conversion from content providers' data structure to the Europeana Data Model [22].

A robust program of communication, dissemination and visibility is undertaken under the coordination of partner Promoter s.r.l. Besides an appealing project website [23], a sound planning for outreach has been developed, even if limited in scope because of the pandemic. A dense editorial calendar of blogs, galleries and social media actions have been set to engage with users. The work to develop the PAGODE exhibition has been initiated. PAGODE was presented at the Europeana Aggregators Forum on 6–7 May 2020. The forum is a gathering event, where, twice a year, the community of Europeana's most trusted partners meet to review strategies and collaborations, and make plans for the future. All the aggregators work with CHIs to gather authentic, trustworthy and robust cultural data and make them accessible through Europeana. Through the Europeana Aggregators Forum, partners exchange the knowledge and best practices that support the digital transformation of CHIs. In the most recent gathering, PAGODE was enthusiastically presented by Photoconsortium to colleagues, with a video and a short pitch. The invitation to participate in the project was extended to other aggregators and CHIs, with the intention to use PAGODE as a seed for a new community around Chinese CH in Europe. The project is promoted also by the European Commission on its channels, on twitter, LinkedIn and in the newsroom of the Innovation and Networks Executive Agency INEA [24] (Fig. 1).





Fig. 2. Lion of Fo, or Lion of Buddha, c. 1800 © KIK-IRPA, Brussels, Belgium

5 Chinese Cultural Heritage Content in PAGODE

Photographic heritage is just one kind of Chinese CH in Europe, but it represents an important share of the content digitized in the PAGODE project. The past photographs of China provide a wealth of information about a civilization that has undergone so profound change over the last century. Yet, in addition to the knowledge embedded in the images, waiting to be discovered through their analysis and study, photography is also an important element for storytelling. This is, for example, the case of the photographic collection by Carl Simon (1873–1952), which was acquired by United Archives in March 2012 [25]. The Carl Simon Archive was a sleeping treasure of photos for 60 years. In 2011 the sensational life work of this visionary man was finally rediscovered in an old storage room in Unterbilk, in the city of Düsseldorf, Germany – a treasure trove of approximately 23,000 wonderful glass slides (9.5×8.5 cm and 8.5×8.5 cm), for the most part hand-coloured and well-assorted in 200 wood boxes. There were also 2 original projectors, accessories, 15 lenses as well as countless scripts for slide lectures. Carl Simon first worked as procurator at the German photo company Liesegang in Düsseldorf. He founded his own company Lichtbild-Anstalt Carl Simon & Co. in 1907, which offered services for the upcoming photo industry. He constructed cameras, rented slide projectors, and began to collect wonderful hand-coloured glass slides. The most important part of his activities were live slide performances. Carl Simon had the ambition to show the big world to many people and to that end he gave about 300 slide performances to amazed spectators all over Germany. During these events, whilst showing the photos, an actor read a special text for each image and, last but not least, a small orchestra was playing

background music. Until 1945 Carl Simon collected 80,000 images. Over the years, more than 23,000 survived. After his death Karl-Heinz Simon (1920–2002), his son, carried on with the tradition of slide shows performances up to the 1960s. The end came with the introduction of television. There are several beautiful photographic trips within this marvellous collection, that showed far and strange countries to people who never had the opportunity to visit them, for example of Rome, life in East Africa, Asia, a journey through France, earthquakes and volcanic activity, Japan, Tibet, the sinking of the Titanic and many more “highlights” of glass slide photography. China has a great role in the collection. Part of the Carl Simon Archive is already available in Europeana, under the umbrella of Photoconsortium aggregated content [26]. Thanks to PAGODE, United Archives will offer more content from this wonderful collection. Furthermore, another more recent relevant photography collections of United Archives will be made available in PAGODE, with images taken during the Cultural Revolution.

Many representations of Chinese and China-related artefacts in various collections held by museums and libraries in Europe are also part of the PAGODE content, in addition to photographs. These collections include decorative objects, clothes and accessories, porcelain, furniture, Chinoiserie, paintings, musical instruments, books, engravings and much more. All these different kinds of objects have their own peculiar requirements for digitization. A common simple way is to take a picture - or more pictures - of the object from different angles, and just show the images. Technologies and standards, such as the International Image Interoperability Framework IIIF [27], help a deeper interaction with the image allowing for zooming and navigating the various part of the pictures in high detail. 3D digitization is a more complicated solution, especially for porcelain due to light reflections in the object’s surface, even though this technique provides a much better user experience than a set of plain photographs. This, however, opens a question on technology and accessibility as not all institutions, particularly not the smaller ones, have access to or resources for 3D production facilities. Currently, several initiatives [28] are making technological efforts to develop tools and solutions for 3D content. Also, Europeana established a dedicated task force [29] for increasing the support for 3D cultural heritage and the availability of 3D content for education, research and by the creative industries. The expertise of KIK-IRPA on digitization and 3D representation of CH is vast and in PAGODE is applied to the digitization of Chinese artefacts from European museums.

Chinese books are another hard nut to crack, because of the challenges connected with the digitisation of texts in Chinese language: although Optical Character Recognition technologies are mature enough nowadays, their application to Chinese book requires to recognise the characters in both traditional and simplified form, and with orientations that differ from the one used for Latin languages - especially, but not only, older books are written vertically and from right to left. This means that offering a meaningful digital experience with an old Chinese book requires much more than just scanning the pages and putting them online one after the other [30, 31].

Finally, the world of music heritage: China has a long and influential musical tradition based on the philosophy and culture of ancient China. Confucians embraced a correct use and form of music that was to match social and cosmological conceptions, so to discover traditional Chinese music helps understanding Chinese culture. There are still

a number of barriers to online access for audio and audio-related materials, including the need of appealing content display to support user-friendly search and engagement, which is a difficult task also in the physical museums: but this will be the subject for future projects.

6 Conclusions

PAGODE is just the beginning of a long journey. Partners and associate partners are currently digitizing interesting and varied collections of CH items that including artefacts, photos, books, and much more. These digital collections aim to represent a meaningful selection of the Chinese heritage preserved in Europe and Europeana is a fundamental channel to reach a plethora of audiences who can access, use and re-use these collections. Contacts established with Chinese CHIs indicate a very strong potential for future collaborations: Chinese institutions show a strong interest in the project and in Europeana, and this is creating a basis for renewed collaborations and connections.

The project is expected to deliver its major outcomes in 2021. These include a bulk of new records published in Europeana in the form of open access CH materials, compelling stories and narratives to enable users' engagement. A physical exhibition will be launched in Pisa in September 2021 to target general public, and a final conference will take place in Brussels to target professionals from CHIs.

The hope and aim is that PAGODE becomes a seed for the establishment of a network of common interest for CHIs that have a stake in Chinese CH. This will allow the legacy of PAGODE to not only be kept alive, but also to continue to grow, beyond the end of the project's EU funding period, promoting more actions to enable collaborations among European and with Chinese institutions.

References

1. Europeana Homepage. <https://www.europeana.eu/en>. Accessed 08 Jun 2020
2. CEF Connecting Europe Facility Programme Website. <https://ec.europa.eu/inea/en/connecting-europe-facility>. Accessed 29 Oct 2020
3. KIK-IRPA, for Koninklijk Instituut voor het Kunstpatrimonium - Institut Royal du Patrimoine Artistique, is a federal scientific institute responsible for the documentation, study and conservation-restoration of the cultural and artistic heritage of Belgium. <https://www.kikirpa.be/EN/>. Accessed 08 Jun 2020
4. United Archives Homepage. <https://united-archives.de/>. Accessed 08 Jun 2020
5. Photoconsortium Homepage. <https://www.photoconsortium.net/>. Accessed 08 Jun 2020
6. Europeana Digital Service Infrastructure initiative. <https://pro.europeana.eu/page/europeana-a-digital-service-infrastructure>. Accessed 29 Oct 2020
7. EastMeetsWest in Greece is a new initiative to link the countries of Asia with Europe in Greece under a digital cultural heritage umbrella. <https://emwg.site/>. Accessed 08 Jun 2020
8. Department of Asian Studies at University of Ljubljana. <https://as.ff.uni-lj.si/english/english>. Accessed 28 Oct 2020
9. The Europeana Publishing Framework. <https://pro.europeana.eu/post/publishing-framework>. Accessed 28 Oct 2020
10. Museo della Grafica is a joint venture of the University of Pisa, the Municipality of Pisa and the Tuscany Region. <https://museodellagrafica.sma.unipi.it/>. Accessed 29 Oct 2020

11. EU-China: Silk Road Cultural Dialogues, Networking Session, ICT2018, 5th of December Austria Centre Vienna
12. Mandarins of China digital gallery on Europeana. <https://www.europeana.eu/it/galleries/mandarins-of-china>. Accessed 29 Oct 2020
13. 'Rice cultivation in China' digital gallery on Europeana. <https://www.europeana.eu/it/galleries/rice-cultivation-in-china>. Accessed 28 Oct 2020
14. Mobile Digital Museum post on DigitalMeetsCulture magazine, <https://www.digitalmeetsculture.net/article/mobile-digital-museum-the-frontier-for-cultural-heritage-exhibitions/>, last accessed 2020/06/08.
15. Vampelj Suhadolnik, N.: Collecting Chinese objects in Slovenia at the turn of the twentieth century. *Ming Qing Yanjiu* **24**(2), 161–180 (2020). <https://doi.org/10.1163/24684791-12340047>
16. About VAZ - Vzhodnoazijske zbirke v Sloveniji/East Asian Collections in Slovenia. <https://vazcollections.si/predmeti/album-the-imperial-city-of-pekking-china/>; <https://vazcollections.si/predmeti/album-the-decoration-of-the-palace-buildings-in-pekking/>. Accessed 28 Oct 2020
17. Chinese Special Collections of Leiden University Libraries. <https://www.library.universiteitleiden.nl/subject-guides/chinese-special-collections>. Accessed 28 Oct 2020
18. Manneheim's China photos are preserved in the Ethnographic Picture Collection of Finnish Heritage Agency. https://www.museovirasto.fi/en/collection-and-information-services/the_picture_collections/collections/ethnographic-collection. Accessed 28 Oct 2020
19. Museum Volkenkunde's website. <https://www.volkenkunde.nl/en>; its permanent exhibition about China: <https://www.volkenkunde.nl/en/whats-on-0/exhibitions/china>; the digital China collection: <https://collectie.wereldculturen.nl/Default.aspx?collectionid=42328#query/440fba9c-c006-4e38-ba0c-24113400dcd5>. Accessed 28 Oct 2020
20. Benaki Museum's Chinese and Korean Collection of porcelain: https://www.benaki.org/index.php?option=com_collections&view=collection&id=41&Itemid=540&lang=en. Accessed 28 Oct 2020
21. MINT is the tool that provides users the ability to perform a mapping of their own metadata schemas to reference domain models. The tool is used by several aggregators of Europeana to map the content providers metadata schema to the model of Europeana. The tool is published as open source. https://mint.image.ece.ntua.gr/redmine/projects/mint/wiki/Mapping_Tool. Accessed 08 Jun 2020
22. Europeana Data Model EDM is the model used by the Europeana Core Service Platform to as the basis for the implementation of the aggregation process. <https://pro.europeana.eu/page/edm-documentation>. Accessed 08 Jun 2020
23. PAGODE Homepage. <https://photoconsortium.net/pagode/>. Accessed 08 Jun 2020
24. The Innovation and Networks Executive Agency INEA of the European Commission is appointed to run the monitoring and assessment of the progresses of the PAGODE project. The newssroom of INEA promoting the PAGODE project. <https://ec.europa.eu/inea/en/news-events/newsroom/pagode-project-brings-chinese-heritage-europe-europeana>. Accessed 08 Jun 2008
25. TV report about the discovery of Carl Simon's archive. <https://www1.wdr.de/mediathek/video/sendungen/lokalzeit-duesseldorf/video-dia-schatz-hinter-der-tuer-100.html>. Accessed 28 Oct 2020
26. Blog about Carl Simon photographs in Europeana. <https://www.photoconsortium.net/discovering-carl-simon-a-storyteller-who-used-photography-to-engage-people/>. Accessed 28 Oct 2020
27. The International Image Interoperability Framework™ is driven by a community of research, national and state libraries, museums, companies and image repositories committed to providing access to high quality image resources. <https://iiif.io/>. Accessed 08 Jun 2020. Europeana is implementing the support to the IIIF standard.

28. Initiatives on the use of 3D technology to represent CH include several research projects (relevant references are: 3D-ICONS about digitisation of architectural and archaeological heritage, VI-MM about virtual multimodal museums; INCEPTION.eu time-dynamic 3D reconstruction of artefacts, built and social environments) and Generic Services supporting Europeana (such as the new Share3D project).
29. The Europeana task force on 3D. <https://pro.europeana.eu/project/3d-content-in-europeana>. Accessed 28 Oct 2020
30. Sturgeon, D.: Large-scale optical character recognition of pre-modern Chinese texts. *Int. J. Buddhist Thought Cult.* **2**(2), 11–44 (2018). <https://dsturgeon.net/papers/large-scale-chinese-ocr.pdf>
31. Sturgeon, D.: Digitizing Premodern text with the Chinese text project. *J. Chin. Hist.* **4**(2), 486–498. <https://doi.org/10.1017/jch.2020.19>

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Author Queries

Chapter 22

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