SERICA
In Search of a "New" Silk Road

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In this paper the two authors wish to outline the main purposes, targets and outcomes of the two-year project (2021-23) they led, funded by the Italian Ministry of University and Research in the frame of the FISR ("Fondo Integrativo Speciale per la Ricerca") 2019 actions. As suggested by its acronym, SERICA ("Sino-European Religious Intersections in Central Asia. Interactive Texts and Intelligent Networks") aims to develop diachronic and global research about the Silk Road(s) by means of a historical study of texts in various languages, that mediated to Europe the knowledge of the Middle and Far East, without neglecting material culture artifacts and artistic products. The project will mainly result in a website (www.serica.unipi.it), which is going to be accompanied and supplemented by more traditional instruments, such as text editions, translations, and commentaries.

Although Eurasian studies or Silk Road(s) studies are to be counted among the liveliest and most attractive subjects in global history, this specific research field still has not received in Italy the attention it deserves, apart from individual publications, which, however, miss the wide-ranging perspective and the complexity involved in such a complicated network that spans over at least two millennia and over more than ten thousand kilometres. These studies have often uncovered the role of travelling merchants and missionaries, who from Late Antiquity onwards started tracking the earliest cultural path which joined East Asia and Europe in a structural and permanent interchange. This process reached its peak in the 16th and 18th centuries, with the production of a huge number of texts and the creation of multilingual libraries, especially in China. On the one hand these works aimed at circulating to the Far East elements of classical European education, and at the same time communicated to Europe the first widespread information on the geography, customs and cultural bases of the civilizations of East Asia. At the Western end of

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the Silk Road(s), in Anatolia and in the Levant, the entangled interactions of the Western and Eastern forms of Christianity and the Muslim world in the Middle Ages have also received sustained – though uneven – scholarly attention. New approaches are now underlining the dialogue and controversy within what can be regarded as a pervasive Mediterranean "culture of disputation". A reassessment of these texts and other sources bearing witness to Christian-Muslim interactions (for example ethnographic works) appears badly needed, so as to shed light on their intended audience, wider circulation and later reception.

This multifaceted process of communication and cultural exchange has been the subject of many historical studies, always on the basis of a small selection of documents and almost never from the point of view of the linguistic intersection between the civilizations involved, nor from the perspective of Eastern contacts with Europe and the West. Our scope is precisely to bring together an interdisciplinary team of experts and at the same time to promote further national or international collaboration underlining the connections with other similar projects. In this regard, while from a strictly administrative standpoint the team is mainly composed of scholars belonging to the Universities of Pisa and Turin, a constellation of partner universities or institutions is also involved and cooperation has already been established with Siena, Venice, Naples "L'Orientale", Bologna-Ravenna, Seoul, and Beijing. The research team includes historians, philologists, and computer scientists (see www.serica.unipi.it/il-team). While the role of philologists and specialists of the various Oriental languages is indispensable, as they guarantee a precise and rigorous interpretation and contextualisation of all the scrutinised texts, the presence of information scientists and the creation of collaborative virtual environments is a further added value of this project, which promotes the convergence of technologies and applications between different domains. In this sense, SERICA aims to bring together and unify research in the philological, linguistic and historical fields which, despite having reached very high levels of refinement, remain distinct and separate and too often do not create reciprocal dialogue.

By selecting some of the most significant case studies within a vast temporal period (400 BC-1700 AD), we are going to investigate how books and manuscripts circulated and were sometimes further disseminated through translations. Such text circulation attests not only to diplomatic-commercial relations, but also to an osmotic

interaction between different agencies, faiths, social systems and cultural universes that moved along these routes. Considering "material things as entry points into history", the project will create a digital platform and a virtual mapping of the historical-geographical paths either mentioned in these books or actually covered by their circulation, highlighting, in its broadest sense, the uninterrupted contact between Asia and Europe. Choosing a long historical period and a wide geographical area permits the adoption of a trans-disciplinary agenda, which provides a rethinking of traditional methodologies and has the aim of achieving a non-Eurocentric reading of the past: both these aspects allow us to reflect on and answer crucial questions for contemporary society.

Consequently, the novelty in our approach can be summarized as a twofold one: it will present and make available new documents, often unpublished or scarcely known, for most of them have never been translated into Italian or in any modern language. Secondly, this will be made possible also thanks to the pivotal role played by the ICT, which will permit the evaluation and interpretation of the data by combining them in a united, transversal and dynamic corpus, capable of exploiting the potential of information technologies. New diachronic perspectives of comparative studies are thus to be envisaged, in particular the strict cooperation with information scientists will permit the development of a digital library and a new corpus of texts and documents from medieval and early modern times concerning the Middle and Far East. By proposing a fresh new approach to this kind of literature we wish to place the study of an East-West trajectory into the wider scientific discussion about Eurasian cultural exchanges, in particular considering how Eastern sources dealt with and were received in the West. Furthermore, it is difficult to find platforms that combine interlinguistic and philological studies with historical reconstructions and a clear visual rendering.

Once collaboration with private companies, which strengthens the links between the university and the local area, have been fully realized, the website will feature a highly usable and effective user interface, and will be structured according to different phases of design prototyping (from Wireframing to Graphic Design), including the definition of general categories of users (Proto-Person); the construction of Use cases and Users' stories; the description of navigation paths (User journeys); and the analysis of the effectiveness of the proposal through interviews and user testing. It will feature a

digital library equipped with innovative semantic web and artificial intelligence tools and a diachronic array of interactive maps that make use of geolocalisation tools. Data will be collected in an interactive database, with visual mapping of the texts and objects documenting mutual exchanges. The final result will present a navigable interactive and "talking" diachronic map of the various routes, where images and historical details will contribute to reconstructing a context as precise as possible of the knowledge that a traveller might have had.

This digital library will be realized using suites that include functions like uploading of texts and metadata, semantic enrichment, and data management. Such a knowledge base is going to represent a concrete model (and the first one in Italy) for displaying interactive data of historical relationships between different Eastern countries and Europe (for a similar project see the CHCD at Boston University). Particular attention will be paid to the processes of linguistic analysis (through Natural Language Processing techniques), so as to normalise the texts and extract the greatest possible amount of structured information to be used as input for the advanced queries and analyses of artificial intelligence. A context of particular interest in the research area of the project is multilingualism, i.e. having texts written in different languages – among which ancient Greek, Latin, Chinese, Sanskrit and Arabic – which must be normalised and adapted to a common knowledge model in order to be able to create machine learning models with the greatest possible quantity of homogeneous data to guarantee a greater accuracy. Another important aspect is the temporal diversity of the origin of the sources, which means that NLP analysis might be particularly difficult, since normally the available tools only consider the current versions of a language and not its older or classical versions. In particular, its hybrid nature (digital library-interactive map-database) makes it a pilot model in the Italian research panorama of Asian language studies, which can be connected to an ever-growing network of information, both national and international, cooperating with projects currently already active or in progress. As already suggested, the creation of an information support articulated by semantic and thematic paths and by means of a virtual guide based on web ontologies and deep learning is central to the success of the project.

The final goal is to create a virtual place that can be used not only by experts for academic purposes, but also by a wider audience for educational or divulgation purposes. Although the project is carried

out in a scientific manner by experts from different academic sectors, one can also envisage the potential didactic impact, involving many students in the study and the use of these digital tools. Interdisciplinary teaching also increases student learning and encourages an intertwined approach at school and at the academy. In particular, we are proud to mention the fact that the project permitted a temporary enrolling of at least twenty young researchers, some of whom still undergraduates, or in the early stage of their academic career.

Alongside the traditional tools of humanistic research (text editions, translations, commentaries), the project in fact aims to produce visual rendering in line with the "Third Mission" of the universities, to make books and testimonies, so far confined to a single research field, accessible to multiple and interdisciplinary scholarly approaches. The objective of creating a software that is able to attract a non-specialist public and make it interact with a complex and varied cultural heritage discloses its importance, while emphasizing how knowing the past helps to create examples and models for the present. The building of a digital library, which recent approaches no longer consider as a mere dataset for enhancing the fruition of the cultural heritage, but a repository of memory and sources of knowledge for future generations and therefore a primary social and cultural expression of the contemporary age, represents another important achievement oriented towards sustainable goals of dematerialization and preservation, according to an expansion of the R-FAIR Guiding Principles for scientific data management and stewardship into R4: Re-usable, Relevant, Reliable and Resilient. Moreover, in a post-pandemic society in transition, it is clearer and clearer that sharing a cultural heritage in open sources is vital to facilitate learning; the digitization and openness of data are fundamental for resuming research on a global level.

Focusing on the investigation of relations between East and West also paves the way for potential spin-offs for a cultural and sustainable tourism; most of all, it aims to facilitate access to apparently distant worlds and different cultures, by making available a large quantity of material, sometimes unpublished or hardly accessible. In this sense, digital tools undoubtedly represent a new process of democratisation of culture, which recalls that same process of 'democratization of culture' that the great historian Santo Mazzarino had already

identified as central to late antiquity, namely the starting point of our investigation.
Partial findings, as well as studies and/or editions of unpublished documents appeared or are going to appear in the form of monographs or articles in peer-reviewed journals. These publications, both in print and digital format and open access, will follow up the research in order to communicate the project's outcome, and the web archive will remain available, searchable, and implementable to scholars (as well as students or a broader audience) from all over the world, so enlarging the audience of users and involving further collaborators.

In addition to the most important testimonies of the classical and early Medieval period (with a revised and commented edition of G. Coedès' collection of *Textes d'auteurs grecs et latins relatifs à l'Extrême-Orient depuis le IVe s. av. J.-C. jusqu'au XIVe siècle*), and to a corpus of annotated epigraphic recordings, the DL will comprise some unpublished or less-known texts, whose translation and commentary is also envisaged. The first planned volumes include Giovanni De Marignolli *Chronicon*; Athanasius Kircher, *China Illustrata*; Ioannes Petrus Maffei, *Historiarum Indicarum libri XVI*; Michail Boym, *Flora Sinensis*; and Philippe Couplet (*et alii*), *Confucius Sinarum Philosophus*.
With regard to the latter text, for instance, a thorough analysis performed by Andrea Balbo and his collaborators about the presence and echoes of Classical authors, such as Cicero, Seneca, Livy (and partly Lactantius), provides a further demonstration that the Latin used by the Jesuits is strongly indebted with a phraseology and a framework of concepts that do not belong only to Medieval or theological tradition, but are also based on a solid classical background. The classical heritage – already identified in Ricci's *De amicitia* through the mediation of the Renaissance writer Andrea De Resende – becomes in the book of 1687 a scarlet thread that allows its interpretation also as a reception example. Above all, the strong Ciceronian features of the Jesuit prose – deeply influenced by the *Ratio Studiorum* – represent an example of how classical rhetoric was employed in a context where – as shown by Marc Fumaroli and Robert A. Maryks – the Jesuits created a new system of studies to be used as a weapon against Protestantism. We believe that this kind of scrutiny can receive a further impulse and can be improved thanks to the texts that are going to be inserted in the SERICA database and

made available as plain text in a reviewed and corrected form, suitable for linguistic research or NLP inquiries.

Leaving aside the corpus of Latin texts and related studies, which represents the core of the SERICA project, the website is going to host also the transcriptions of other unpublished texts, such as Pierre-Daniel Huet's, *Histoire du Commerce*; and Nicolae Milescu Spatariul's *Itinerary*, not to mention an annotated dossier of Greek and Latin inscriptions pertinent to imperial-era trade relations between Rome and Arabia and the mobility of people in Middle Eastern areas (Syria, Armenia); and of non-Buddhist inscriptions from the Gandhara region in the post-Maurya period (about 200 BC). Other research includes an examination of various Chinese sources about the relations between the Roman and Byzantine empires and the Chinese empire, as well as a scrutiny of the Manichaean and Christian Medieval missions in the light of sources in Middle-Iranian languages (Middle-Persian, Parthian, and Sogdian) and Chinese. Along the same lines, research dedicated to Central Asia is going to present a commented translation of the pertinent passages in Ibn Haldoun's historiographic work; a collection of texts dealing with "shamanism" in Latin Medieval and early modern sources; while other investigations will touch on subjects such as Islamic-Christian controversies in the Byzantine period and Armenian historiography and ethnography. All these materials will also be approached from the perspective of entangled history, to outline their trans-cultural interactions and multidirectional character of transfers, all while acknowledging the centrality of spatial orders as the result of relational processes with the potential to influence social interaction in return. Therefore, particular attention will be paid to the literary, philosophical and religious dimension of these connections, which counterbalance that of trade routes and commercial exchanges.

Such diverse material might give the appearance of being heterogeneous or inconsistent, and of course this impression derives from the (hyper-)specialisation and experience in various fields of most of the contributors, not to mention the bureaucratic limitations in time and the number of participants. Yet, we think that, by patiently adding various *tesserae* to a large and complex mosaic, the final result will be clearer and unified. The selection of particularly meaningful single case studies is surely susceptible to be further implemented and enriched. For the same reason, our wish (and the main goal of the project) is to enlarge and foster cooperation with all the scholars that

are potentially interested in the field, in order to create a collaborative environment and a larger collective network that is progressively expanding and that aims to build long-term cooperation for the following years, because it is more and more urgent to “build bridges instead of walls”, as unfortunately recent historical events show us.