

A message from the Caucasus

Saving Dagestani manuscripts

In the depths of the Caucasus mountains, the Dagestani people have over the centuries developed an identity shaped by the fruitful combination of different ethnic groups and religions. This mingling of cultures has given life to a large quantity of manuscripts, today threatened by neglect and degradation – an extraordinary heritage that Factum Foundation is helping protect thanks to a rigorous program of digitization.

by Adam Lowe, director of Factum Arte and founder of the Factum Foundation

In 2014 the artist Rachid Koraïchi mentioned in conversation the important collection of Arabic manuscripts in the collection in the Institute of History, Archaeology and Ethnography (IHAE) in Makhachkala, Dagestan. Following the containment of religious activity and years of neglect during the Soviet era, they were in poor condition and stored in rooms without climate control. They were being looked after by a passionate and knowledgeable team working at the IHAE which was under-funded and without resources to carry out either conservation or extensive digitization (they had an ELAR flat-bed scanner to produce images at 300 dpi). Rachid suggested a trip to the country to visit the archive and the Mosque and mausoleum at Kala-Koreysh, a remote site of great importance for the understanding of the spread of Islam in the region.

A few years later, in 2018, Factum Foundation – with the Girogio Cini Foundation in Venice and the Digital Humanities Laboratory of the Ecole Polytechnique Federale di Losanna – launched ARCHiVe. A new initiative supported and financed by the Helen Hamlyn Trust.e dedicated to the research and use of digital technology for the protection, dissemination and the study of our shared cultural heritage. Encouraged by the potential of this new initiative, for the past few years we have been working on this ambitious project of digitization of the manuscripts written over the past centuries in the remote region of Dagestan.

Fruitful meetings

Located in the Russian North Caucasus, Dagestan is an ethnically diverse mountainous region with over thirty distinct languages. Its cultural and artistic heritage was shaped in part by its position at the crossing point of the Roman, Sasanian, Arabian, and later Persian and Russian empires. The relative isolation of the North Caucasus mountains also encouraged an individualisation of religious practice, which meant that Zoroastrianism, Judaism, Christianity and Islam were all adopted at various points in its history, often coexisting for several centuries. This was a productive environment, one that encouraged a thriving manuscript tradition that developed alongside scientific, literary and religious scholarship. Following the adoption of Islam in the 8th and 9th centuries, manuscripts copied in the great Islamic centres of the Middle East and Central Asia were brought to Dagestan via silk trade routes. From the 14th century onwards, Dagestani scribes produced their own copies of well-known texts, and of works by lesser-known Dagestani authors. The Islamic cultural revival of the 19th century culminated in a period of immense richness for Dagestani literature and poetry reflected in the large number of manuscripts that were written and copied in this period.

A week after the meeting with Rachid Koraïchi, Factum Foundation was introduced to Ziyavudin Magamedov, who founded the Peri Charitable Foundation (Moscow and Makhachkala) and Natalia Izosimova, one of its board members. The Peri Foundation is

focussed on technology, training, creating professional opportunities and the preservation of Dagestan's rich heritage. Serendipity is something that everyone in Factum is familiar with and these two lines of interest led to a visit to both Kala-Koreysh and the IHAE a few months later.

The first visit was an introductory one with Polina Filippova, (who became the CEO of the Peri Foundation) and Natalia Izosimova, Rachid Koraïchi, Bassam Dachestani, a specialist manuscript conservator from Juma al Majid's Centre for Culture and Heritage, Dubai. We were taken to Kala-Koreysh in the snow by Zumrud Suleymanova, the former Minister of Culture in Dagestan and the director of the Dag Aul Complex of which Kala-Koreysh is a part. We were shown the State Archives by Shamil Shikhaliev (Head of Manuscript Collections at the IHAE) and Dr Makacak Musaev (Director of the IHAE), and we saw first-hand both the extraordinary academic work that was being carried out and the daily logistical problems caused by a lack of funding and limited access to technology. We understood the specific problems faced by a state archive with a specialist collection of about 3,500 Islamic Manuscripts dating from the 9th to the early 20th century. During this visit, we met with the Mufti of Derbent, who offered us assistance if we wished to extend the project to record the manuscripts in the Mosques, Madrassas and the collections of Islamic Scholars.

Plan of action

On this first visit a clear plan was agreed; Factum Foundation would send a team to record all the tomb stones on site in Kala-Koreysh and the wooden Mosque doors that had been removed and were in the museum in Makhachkala. The Factum team would work with the Peri Foundation to identify and train two local photographers in the skills required for high-resolution recording of cultural heritage. At the same time, the Peri Foundation provided on-ground logistics and financial support both for Kala-Koreysh and IHAE. Factum Foundation designed and built two manuscript scanners (one portable) and installed them into the IHAE along with training, remote access support and on-site maintenance. The Centre for Conservation and Heritage in Dubai provided restoration training and a fully equipped lab for the conservation, protection and storing of the manuscripts after digitization.

Factum's work started in 2015 with the recording of Kala-Koreysh, including the creation and the development of the scanning systems for the State Archive. This work was carried out by Eva Rosenthal working with Ferdinand Saumarez Smith and Alex Peck from the Factum Foundation, whilst training Shamil Gadzhidadaev and Gennady Viktorov, who had been selected to participate in the work of the documentation. The results of this phase, taking about four weeks, had remarkable outcomes and resulted in an exhibition of physical facsimiles and digital displays that have been shown at the Hermitage (St Petersburg), The Victoria & Albert Museum (London) and the Exhibition Hall of the Artist's Union of Dagestan in Makhachkala. Following this, the two photographers from Dagestani have continued to employ the skills they acquired during this project in various ways - Gannady was recently involved in the high-resolution photographic recording of paintings in Makhachkala's main museum, images which have now been published on Google Arts & Culture website.

Since 2015 Factum Foundation has worked both in Madrid and Makhachkala to assist in the digitization and processing of the archive of Islamic manuscripts at IHAE. This work has developed the collaboration with the Peri Foundation. For the recording work, Factum has designed and produced two custom-made photographic manuscript recording systems specifically for the project. The first was delivered and set up in 2016 while the 'portable' version took longer to perfect and was handed over in September 2018. Two operators, Habib Seferbekov and Khalisat Shikhalieva have been trained by Factum's staff working under the

supervision of Dr. Shamil Shikhaliev. They will continue working in the Archive but also travel to record manuscripts held in the remote and inaccessible mountains of Dagestan. The work is being co-ordinated by Dr Makhach Musaev.

Systems and techniques

Unlike many commercial options, Factum Foundation's 'fixed' manuscript scanner uses standard photographic equipment to produce sharp high-resolution images. With an experienced operator, the system is capable of recording 100 pages per hour at 800 dpi at 1:1, up to approximately A3 size. During the recording, a book is placed on the v-shaped cradle and opened to 90 degrees. The operator manually brings a pressure sensitive Perspex plate into contact with the paper to gently flatten the pages without risking the integrity of the manuscript or applying pressure to the binding. The two Canon 5DSR cameras are activated through the custom-made Manu-Capture software using the foot-pedal shutter and the images are automatically downloaded onto the computer. When the image has been downloaded and auto-corrected, the operator lifts the Perspex plate to turn the page and continue the recording.

The 'portable' manuscript scanner is lightweight, easy to assemble and operate. It uses two Canon 7Ds and flash-lighting to produce consistently high quality 1:1 images at 300 dpi in any environment. It combines standard photographic hardware with custom-made elements, all of which are easy to replace or remake, so that components can be quickly and cheaply replaced without the need for specialist assistance. The scanner is currently in use in the IHAE but it has been designed to digitise manuscripts in the mountain villages of Dagestan.

Both scanners work with specially written software specifically written for this project, capable of attaching basic metadata tags. Work has also been undertaken to develop algorithms to detect and crop the documents scanned with the manuscript scanners. The goal is to produce robust and automated methods making it easier to access and analyse the high-resolution images, and adjust the pages and any distortion in the image using freely available programmes produced by Factum.

Throughout the duration of the project, Factum has also provided extensive remote technical support for the IHAE. This is critical to the success of the project and watching Enrique Esteban operating the scanner in Madrid with an onsite operator in Makhachkala is both inspiring and a creative and innovative application of technology. One of the conceptual and logistical challenges that was initially encountered was to figure out how to separate the material value of the manuscript as an object from the intellectual value of its content in academic and historical terms.

The work to date has exceeded all expectations: the IHAE has recorded and stored over one third of its archive of Islamic manuscripts. All the copyright on the data for all current and future commercial applications belongs to the Institute. In return, they have agreed to share the digital files in Russia and elsewhere with experts who make excellent use of the content of the data.

For example, with the *Al-Qawl al-sadid fi jawab risala Sa'id*, which can be translated as 'a sensible speech in reply to Sa'id's compositions', was written in response to the Dagestani scholar Sayid al-Arakani, who allowed Muslims to drink the locally produced fermented barley drink known as *Buza*. Inhabitants from the village of Zerani requested a clarification on this point from the scholar Jamaluddin Kazikumukhsky, who replied that since fermented barley juice is alcoholic and therefore intoxicating, Muslims should not be allowed to drink it. This

type of information about religious doctrines and Dagestani customs in the Caucasus has rarely been available to international or even Russian scholars.

We are confident that the IHAE archive will become known to a new generation of academics as a result of this new initiative. The Dagestani manuscripts are a very undervalued area of Western scholarship, as shown by the work of Annabel Gallop at the British Library. The recent digitisation and study of three of the ten Dagestani Qur'ans reveals that colophons had been added in at least one case to make it appear to be a manuscript from the Philippines, an object with significantly more commercial value on the open market. As the high-resolution recording of the manuscripts at the IHAE and the circulation of the manuscripts in digital form continues, many stories and historical perspectives will emerge about a wide range of subjects including Qur'anic scholarship, the view of the 'Reconquista' from the perspective of the Caucasus, the movement and ownership of manuscripts, Sufi studies and social change.

Another practical example of the type of discoveries that are anticipated was published earlier this year by the Poisk Russian news agency. They announced the discovery of a palimpsest of a 6th-century fragment from the Gospel of Luke, written in the ancient Georgian script Asomtavruli, under a 12th-century Sufi text in Arabic. This palimpsest is one of ten rare manuscripts of this kind known to exist and its discovery is a direct consequence of the digitisation programme at IHAE. This discovery illustrates that digital recording, archiving and access to information is opening new doors to scholars and researchers that will dramatically improve the quality of the sharing of information across disciplines and between institutions in different countries. Enrique Esteban, Jose Pellon and Eva Rosenthal collaborated with Shamil Shikhaliev to create a catalogue which has given rise to a webpage with a search engine to find manuscripts by author, subject, name, date, place, the name of the copyist, compilation, special content and other designated fields. This is being done in standard open-source software. Over the past 4 years the Juma Al Majid Centre for Culture and Heritage (Dubai) has provided state-of-the-art equipment for manuscript conservation and restoration and they have opened a conservation centre at the IHAE.

The future of the project

The central aspect of the collaboration between Factum Foundation, the Peri Foundation and Juma Al Majid Centre for Culture and Heritage is that of skill and technology transfer together with ongoing support and assistance. It has been designed to be maximally effective with a limited budget in a way that provides jobs locally and is creating a new resource with international access. We are fully aware that the recording comes with responsibilities that are both human and technical - this is both about keeping salaries paid and ensuring secure long-term archiving in a way that benefits academic, scholars and the preservation community. The task of making the data generally available has been politically and professionally sensitive but it is now gaining momentum. Ensuring the data is usable by researchers at the IHAE and can also be published online is itself a significant task. New funding is now sought to continue the recording, archiving, publishing and securing what has already been achieved. Funding is also required to record manuscripts in private collections and continuing the work in Makhachkala. The objectives of the next phase are as follows:

- To complete the recording of manuscripts in IHEA.
- To start recording the manuscripts that are known to be held in the Mosques, Madrassas and private collections in Dagestan.
- To implement a plan to increase the data storage capacities of the IHAE and upgrade the computers in the Archive.

- To put a structure in place that can guard against vulnerability in terms of power outages and the physical breakdown of data and the difficulties of data transmission and information.
- To continue the training and remote access and long-distant support
- To disseminate the data to interested parties wanting to study the content of the manuscripts, such as academic institutions.
- To continue to work to preserve and conserve the manuscripts from Dagestan.

It is hoped that the results of this ambitious project will soon cross many geographical and virtual borders and serve as a great example that demonstrates the advantages of using digital technologies for preservation and dissemination of art and cultural heritage.