



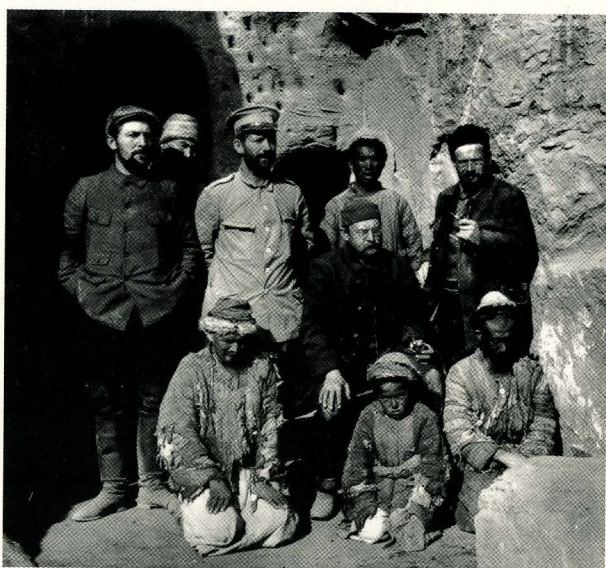
IDP NEWS

IDP — TO PROMOTE THE STUDY AND PRESERVATION OF THE
DUNHUANG LEGACY THROUGH INTERNATIONAL CO-OPERATION

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Berlin's Re-united Collections

Dr. Simone-Christiane Raschmann



Members of the Third German Expedition (1905-07) in Qizil Centre row, l. to r.: Pohrt, Bartus, Grünwedel, von Le Coq
Photograph courtesy of Staatliche Museen zu Berlin
— Preußischer Kulturbesitz, Museum für Indische Kunst

Among the archaeological expeditions from numerous countries to explore the ruins in the deserts of Central Asia, then *terra incognita*, there were also four German expeditions to the oasis of Turfan on the northern Silk Road. Between 1902 and 1914 German scholars under the leadership of Albert Grünwedel and Albert von Le Coq made excavations in the area of Turfan, Hami, Kuca and Karashahr.

Among the finds were many manuscripts and blockprints, written in about fifteen languages in about twenty-five different scripts. Most of these texts are written on paper, with a few on other materials — silk, leather, birch bark, palm leaves or wooden tablets.

Immediately after the return of the first expedition research began and Friedrich Wilhelm Karl Müller deciphered some fragments written in a 'small script', the Manichaean Estrangelo.

The publication of his work in 1904 was the beginning of a new stage in the investigation of Manichaeism. Richard Pischel, Karl F. Geldner, Karl Foy and other scholars also published the first results of their investigations of the manuscripts in the same year and in 1912, the *Orientalische Kommission* at the Berlin Academy of Sciences was founded to coordinate research on the more than 30,000 fragments of the so called 'Turfan Collection'.

Other manuscripts written in Brāhmī script in a previously unknown language, which included some Indo-European elements, were discovered in the Kuca region. F.W.K. Müller found the word *Toxri* as a name of a language in an epilogue of a large Uigur text, of which a parallel version in this unknown language was also discovered. Thus the language became known as *Toxri* or Tokharian. Fragments of Tokharian texts were also found in the Turfan oasis. Later Emil Sieg and Wilhelm Siegling wrote a *Tokharian Grammar* on the basis of this material.

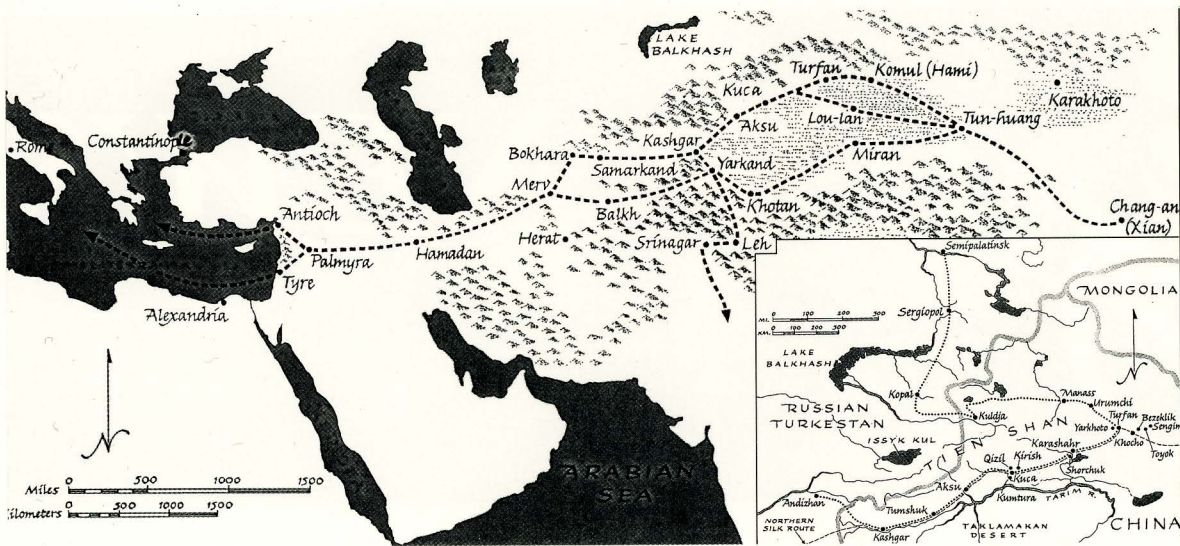
Before the discoveries of the Old Turkish manuscripts in Central Asia only the old Turkish inscriptions from Mongolia and the Ottoman manuscripts from the West were known as written sources for Turkish history. Work on this text group was begun by K. Foy and the first important studies of this material were published by F.W.K. Müller. His

work was to be continued by Willi Bang and Annemarie von Gabain. Besides preparing further editions of texts, both of them began to use the texts as sources for investigations on old Turkish history.

The Turkish part of the collection shows the great variety of the Turfan texts. It consists of about 8,000 fragments which are parts of scrolls, folded books, Pôthi-books and blockprints. Most of them are written in the Uigur script, which was developed from Sogdian, although some fragments are in Sogdian script. The Turkish Manichaeans used the Manichaean and the Uigur script for transcribing their texts. A small number of the fragments were written in Turkish Runic writing, and in Syrian, Tibetan and Brāhmī script. In a seal of a Mongolian document there is an Uigur signature written in 'Phags-pa script. The Buddhist texts are mostly written in Uigur script, with a small number in Tibetan or Brāhmī script. Most of the Uigur Buddhist texts are translations from Chinese, Tibetan, Sanskrit, Tokharian or Sogdian languages. But there are also some examples of original Buddhist literature among the Uigur texts: for instance, fragments of Buddhist alliterative poetry and Buddhist lay literature.

Besides these numerous Uigur Buddhist texts there are some fragments of Christian-Nestorian literature in Syrian script. Among the non-religious texts we find medical texts, astronomical texts and a group of economic documents. While the study of these economic texts is of a great importance for the history of the Uigur kingdoms, research poses great difficulties because of the cursive script and the very fragmentary nature of these texts.

This is a shortened version of the paper given by Dr Raschmann at the October 1993 Conference. The full paper will be published in the Conference Papers, details of which will be given in IDP News 4.



Maps showing the Silk Route and (inset) the itinerary of the German expeditions.

Location of the Finds

The discoveries from the four German Turfan expeditions were sent home in wooden boxes. Later the fragments were put between glass plates which were sealed with a special kind of adhesive strip. This is the way in which the fragments are preserved to this day. To begin with, all materials were kept at the Indian Department of the *Museum für Völkerkunde* in Berlin. In 1926, the texts were separated and the responsibility for the preservation, conservation and edition was given to the Prussian Academy of Sciences until such time when the publication of these materials was finished. A systematical arrangement of the Turfan manuscripts, especially the Sanskrit texts was attempted, but never successfully completed. During the last years of World War II (in autumn 1943) the Turfan collection was sent to various places in Germany for safekeeping, including mines at Winthershall, Solvayhall and Schönebeck/Elbe, and thus most was saved from destruction.

As result of the division of Germany after World War II, the Turfan collection was split. Those parts which had been sent to places in what was to become the Soviet Zone of Occupation, were returned by the Soviet forces in August 1945 to the *Orientalische Kommission*, Berlin, Unter den Linden. This institution was newly constituted as *Institut für Orientforschung* at the newly founded *Deutsche Akademie der Wissenschaften zu Berlin*. Other parts of the collection, from places in the western occupation zones such as Ansbach, were only handed over to the *Mainzer Akademie der Wissenschaften und Literatur* in 1947. Because of the absence of specialists for several groups of the manuscripts this collection was split again. A number of manuscripts (especially Iranica) were sent to Hamburg University where Wolfgang Lentz was working. Another part, mostly Sanskrit texts, was sent to Göttingen.

In Mainz, Sinasi Tekin wrote a provisional catalogue of all fragments preserved there. Further work on the large group of Sanskrit texts was done for the first years after World War II in cooperation between Göttingen under the direction of Ernst Waldschmidt and Berlin, where his pupil, Dieter Schlingloff, was working up to 1961 and where the main part of fragments of this text group is still preserved today. Also under the direction of Ernst Waldschmidt and with the support of the *Akademie der Wissenschaften zu Göttingen* several publication series concerning the Sanskrit Turfan texts were founded,

Over twenty years of cooperation with Japanese colleagues, mainly from the Institute of Buddhist Cultural Studies of Ryukoku University resulted in the publication of two volumes of the *Katalog chinesischer buddhistischer Textfragmente*. And in 1971, in continuation of the *Türkische Turfantexte*, a new series *Berliner Turfantexte* was initiated at the former *Institute of Ancient History and Archaeology* of the *Academy of Sciences* of the GDR. Seventeen volumes of this series including editions of Iranian, Turkish, Tibetan, Chinese and Mongolian Turfan texts have been published up to now. Smaller editions and articles were published in the research journal *Altorientalische Forschungen*.

In 1956 the Iranian texts from Hamburg were returned to Mainz. Later the so called 'Mainz fragments' were handed over to the *Staatsbibliothek - Preußischer Kulturbesitz* Marburg. In the seventies the State Library including the Turfan collection moved to Berlin. And in 1987 the first volume of a catalogue of Turkish Turfan texts including 269 fragments of the Mainz collection was published by Gerhard Ehlers (VOHD 13,10).

After the reunification of Germany in 1989 the Turfan collection was reunited as

well and is now being cared for by the Oriental Department of the State Library at Berlin. Two research groups are working on the Berlin Turfan texts, one editing Turkish and Iranian texts, one cataloguing these two text groups. In addition, an English colleague, Nicholas Sims-Williams, is preparing a catalogue of the Sogdian fragments in Nestorian script. Further catalogues of Turkish Turfan texts are also in preparation.

Important publications of Turfan texts apart from those mentioned above include:

Central Asian Sanskrit Texts in Brāhmī Script from Idikutsahri, Chinese Turkestan by Heinrich Stöner (1904).

Fragments of the Sanskrit Canon of the Buddhists from Idikutsari, Chinese Turkestan (1904).

Fragments of a Sanskrit Grammar from Chinese Turkestan by Emil Sieg (1907 and 1908).

Uigurica by F.W.K. Müller (1908) (later growing to three volumes).

Fragments of Buddhist Dramas (1911) and *Medical Sanskrit Texts* (1927) by Heinrich Lüders
Türkische Manichaica from Chotscho by Albert von Le Coq published in three volumes between 1911-1922.

Türkische Turfan-Texte (I-VII) by Willi Bang, Annemarie von Gabain and Gabdul Resid Rachmati (1929-1936).

Sanskrittexte aus den Turfanfunden and *Sanskrit Wörterbuch der buddhistischen Texte aus den Turfan-Funden*, under the direction of Ernst Waldschmidt.

Sanskriithandschriften aus den Turfanfunden, under direction of Ernst Waldschmidt (7 volumes published to date with a supplementary volume by Lore Sander which deals with palaeographic aspects of the Sanskrit manuscripts of the Berlin Turfan collection).

Catalogue of the Iranian Manuscripts in Manichean Script in the German Turfan Collection by Mary Boyce (1960).

Conservation and Science

An important part of the International Dunhuang Project is the conservation and preservation of the manuscripts and documents in the collections. Scientific analysis — of the paper, ink and dyes — is a vital part of this work, and this page will be devoted to some of the recent interesting developments in these fields.

Over the past few years, The British Library has developed strong links with various scientists, including Professor Kenneth Seddon at The Queen's University of Belfast in Northern Ireland. Peter Gibbs, one of Professor Seddon's students, has been researching the yellow dye found on many of the finest manuscripts from Dunhuang. It was reported in a previous issue that a principal component of this dye was berberine, probably from the *Phellodendrum Amurense* or Amur cork tree. However, two new components have recently been isolated and the differing proportions of these three components found in various manuscripts suggest that there was more than one source for the yellow dyes used. A summary of a paper explaining this work, recently published in *European Mass Spectrometry* (vol. 1 (1995) pp. 217–19) is given below, along with brief details of other work of relevance to the Project being carried out at The Queen's University of Belfast.

New Methods of Analysis of Dyes and Inks

The paper of the Diamond Sutra is dyed yellow and unambiguous identification of the dye components is essential for carrying out conservation work on this and thousands of related manuscripts in the Dunhuang collection. Professor Kenneth Seddon and Peter Gibbs of the School of Chemistry, The Queen's University of Belfast, Northern Ireland, working closely with conservationists from the British Library and the Russian Academy of Sciences, have recently developed a non-destructive method of analysis.

Conventional (destructive) methods of dye analysis require the dye to be extracted and access to a relatively large sample, both impossible conditions when dealing with the Dunhuang manuscripts. Existing non-destructive methods such as X-ray fluorescence and PIXE do not detect the presence of organic molecules. Professor Seddon and his colleagues have therefore recently developed a novel application using liquid secondary ion mass spectrometry (L-SIMS) or fast atom bombardment mass spectrometry (FAB-MS) which allows the mass spectra of the dyes to be recorded directly from the surface of the paper.

Using this technique on samples of

Dunhuang manuscripts from St Petersburg and the British Library, the spectrum revealed not only the expected presence of berberine, but also palmatine and jatrorrhizine. These components occur in the *Phellodendrum* — the previously accepted source of the dye — in the ratio 65%, 32.5%, and 2.5% respectively. However, analysis showed a wide variation in the ratio of these three components with, in some cases, palamateine or jatrorrhizine being the principal component. This suggests that there was at least one other major source for the dye, and probably many more.

This is vital information for the conservation of these manuscripts. One of the problems with conserving the yellow-dyed manuscripts has been the fact that the dye is very soluble in water. Professor Seddon has therefore been working on a method to fix the dye chemically so that it ceases to be soluble in water without affecting the colour. He has succeeded in replacing the chlorine ions in the natural salt with nitrate ions from sodium nitrate. But now that the dye has been shown to contain other components, work will have to take these into account, and also be flexible enough to be applicable to the different dyes.

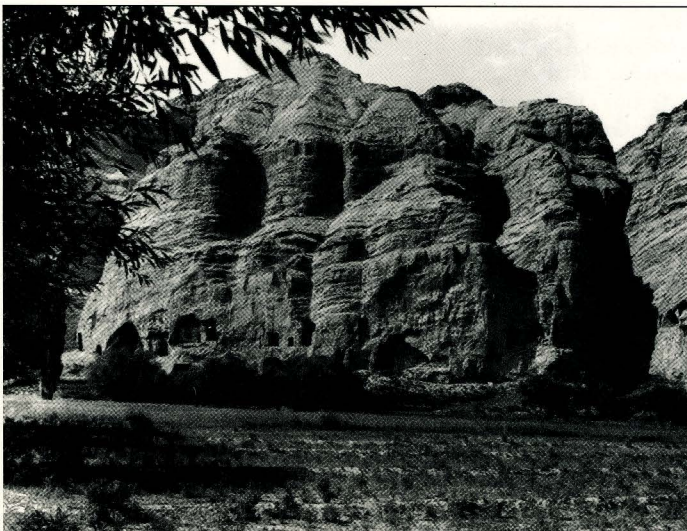
Professor Seddon and Peter Gibbs have also analysed the red ink, which

proved to be cinnabar in all the samples examined, and the red and blue dyes using L-SIMS. These were found to be madder and indigo respectively. In the future, work will be done on the black ink as well.

Development of a pH Probe to Measure Paper Acidity

'Acid-free paper' is a catchword of modern conservation. Yet with no valid method to measure accurately the pH value of paper, this concept — and the associated conservation techniques of changing the pH value of paper — are meaningless. Although scientific papers have claimed to measure pH values, when the error range is ± 2 , conclusions based on differences in measured values of 0.1 are scientifically insignificant.

This was the spur behind Professor Seddon's quest to develop an accurate and valid technique for measuring paper pH, and with funding from the British Library Research, Development and Design Department, his student, Alan Kennedy, has made significant progress with development of a new probe. The funding has been extended for another year to allow further development of this design into a working prototype and its progress will be reported in future issues of the newsletter.



Qizil Caves

A conference to commemorate the 1650th anniversary of Kumarajiva's birth was held in September 1993 at Qizil and included a six day visit to the caves in the area. Dr Dorothee Kehren, who attended the conference, reports that the visit to the Qizil caves was upsetting because of the site's poor condition. There is no grass, some of the caves are inaccessible while access to the rest is very difficult as the sand is running away. Moreover, the cave walls are darkened by soot which makes it difficult to recognize the paintings and sometimes impossible to read the inscriptions. It is hoped that it will be possible to develop plans and a program for the protection and preservation of the site, including the cleaning of the cave walls. Further details are available from Dr Kehren who can be contacted via IDP (address overleaf).

Qizil, A Group of Caves near the 'Great Gorge'

Photograph courtesy of Staatliche Museen zu Berlin – Preußischer Kulturbesitz, Museum für Indische Kunst

News in Brief

Stein Day

In 1994 a number of curators of the Stein collections in the UK decided to meet informally once a year to discuss their work. The 1995 meeting was held at the British Museum on Friday, May 19, and was pleased to welcome Dr. Chhaya Bhattacharya and Mme Khrisna Riboud to talk about their work on textiles and other objects.

Mme Riboud presented the results of her research on 600 textile specimens from Silk Road Limes now held at the National Museum In Delhi. Through a detailed thread count and analysis of patterns she explained that she believed that Dr Lubchenko's dating of the patterned textiles as 3rd-4th centuries A.D. to be incorrect, and that they should be dated earlier. She stressed the complexity of the weaves used in these textiles indicating that they could not have been produced by a home industry, and she also showed several examples of textiles with characters, including the character now used for brocade — 'jin'.

Dr Bhattacharya, now at the Museum für Indische Kunst, Berlin, described the Stein collection at the National Museum, New Delhi and reported that during her time there she had compiled 15 registers listing the 11,839 items, which included: 244 banners from Dunhuang in silk and hemp with 93 on paper; over 2000 pieces of stucco; over 600 textile pieces; and about 900 fragments of wall paintings. She also reported that she was working on a catalogue of all the banners from Dunhuang which totalled 1,669 held in the British Museum, the Hermitage, Berlin and New Delhi. Professor Roderick Whitfield then continued the painting theme, reporting on his work in matching up fragments across collections.

After tea, curators from the UK gave brief reports on their work. It was interesting to hear from Christopher Walker and Sheila Canby of the British Museum about Stein's Iranian expeditions. Verity Wilson (Victoria and Albert Museum) described the recent cataloguing of the 600-700 pieces of textiles on loan from the Government of India. Stein's 3D material and textile fragments held at the British Museum have also been catalogued and made accessible to scholars, work described by Jessica Harrison-Hall and Anne Farrer. Susan Whitfield outlined the work of the International Dunhuang Project and Wang Jiqing, a Visiting Researcher at the British Library, gave a fascinating introduction to his research on Stein's fourth expedition.

The meeting was very well attended and there was an interesting discussion. The talks and discussion were taped and transcriptions (recording quality and time permitting) will be available later in the year. For information contact Sheila Canby at the British Museum. Many thanks to Sheila and Helen Wang for their work in organising this very successful day.

Stein Biography

A new biography of Sir M. Aurel Stein by Annabel Walker was published by John Murray Publishers (London) in June.

New Patron

Sir Matthew Farrer has agreed to be a patron of the International Dunhuang Project. Sir Matthew visited Dunhuang last year and sits on the British Library Board.

People

Wang Jiqing from Lanzhou University and Yashin Ashuri from the Chinese Academy of Social Sciences, are both visiting scholars at the British Library working on Stein and the Dunhuang manuscripts respectively.

Reprint of Russian Catalogues

Norman Ross Publishing Inc. (New York) are planning reprint editions of various Russian catalogues of Silk Road manuscripts, including *Description of Chinese Manuscripts in the Dun-huang Collection at the Institute of Oriental Studies* (ed. by L. N. Menshikov, 2 vols., originally published 1963 and 1967), and *Descriptive Catalogue of the Chinese Part of P. Koslov's Khara-Khoto Collection* (ed. by L. N. Menshikov). Further details of these and other reprints can be obtained from the publishers, 330 West 58th Street, New York, NY 10019, USA.

Moscow Conference

Dr Ulrich Pagel of the British Library read a paper on his work on Tibetan automated cataloguing at the British Library at the conference 'Monuments of Spiritual, Material, and Written Culture of Ancient and Medieval Orient: Problems of Database Creation', held in Moscow from May 30 to June 4, 1995. A short report follows.

Although this was an international conference, most of the participants were from Russia and, as may be expected, there was a bias towards Mongolists and Turkologists. The highlights of the English language papers were contributions by Dr Thomas Hahn (University of Heidelberg), Ms. Maureen Donovan (Ohio State University), Professor Vandamme (Utrecht University), and Professor Hans Peter Vietze (Berlin, Humboldt University). All of these papers revolved around the application of oriental scripts in databases and the use of database programs in library studies.

Of the Russian language papers, the most interesting ones were by G. Yanovsky (Petersburg State University, telecommunications), G. Lvov (St. Petersburg, OCR systems for Chinese characters), V. Lyubchenko (Moscow, automated Japanese-Russian translation programming) and I. Salnikova (Novosibirsk, computerised access systems to the Run Museum collection). These were outstanding because they attempted to treat the theme of database creation in a broader fashion than most of their colleagues who talked about their own projects in isolation from wider trends.

At the conference it was decided to set up an international association operating as a platform for the exchange of automation

information in oriental library resources with a rotating chair.

[For further information please contact Dr Ulrich Pagel at the British Library address given below.]

'Annemarie von Gabain und die Turfanforschung'

From December 9 to 12, 1994, a memorial service for Professor Annemarie von Gabain who died on January 1, 1993, took place at Berlin Brandenburgische Akademie der Wissenschaften, Turfanforschung Department. Sixty-five participants from twelve countries took part. The subjects of the papers presented at the conference corresponded to the widespread fields of research done by Professor Gabain. The scholars discussed problems on philology, linguistics, history and art of Ancient and Medieval Central Asia. During the conference the participants also visited the memorial of Professor Gabain at Berlin-Lichterfelde, the Turfan collection at the Museum of Indian Art in Berlin-Dahlem, and an exhibition on the history of script, where also one fragment from the Berlin-Turfan collection was displayed. The papers from the conference will be published.

Questionnaire

The Project is compiling a database of scholars working on any aspect of the Dunhuang or other Silk Road manuscripts and artefacts. A questionnaire is enclosed with this newsletter to collect information for this database and we would be very grateful if you could complete it and return it as soon as possible to IDP (address below). The questionnaire also asks for details of institutions which hold manuscripts, documents or artefacts from the Silk Road.

A preliminary printout of the information received will be prepared by the end of the year and distributed to all those who replied. If you wish any of the information on the database to remain confidential please indicate this on the form.

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