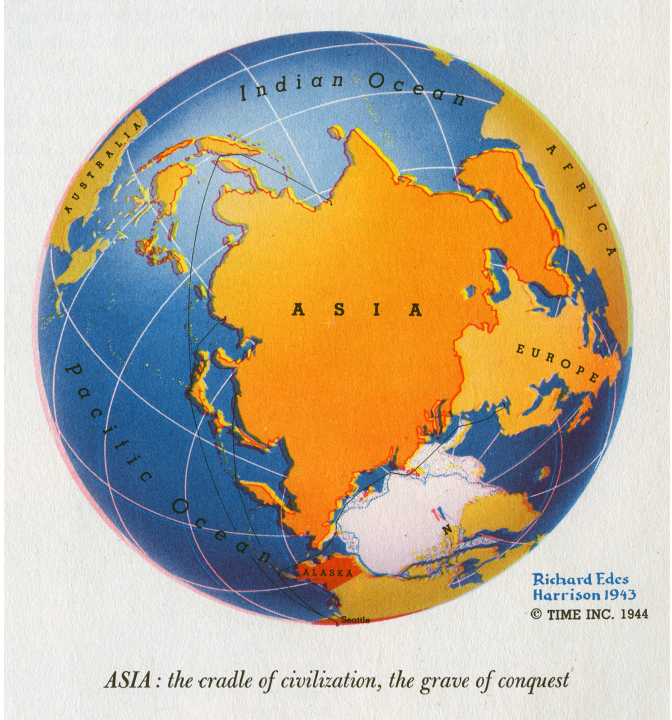
2es Journées suisses d'histoire
Université de Bâle, 4-6 février 2010

Grenzen

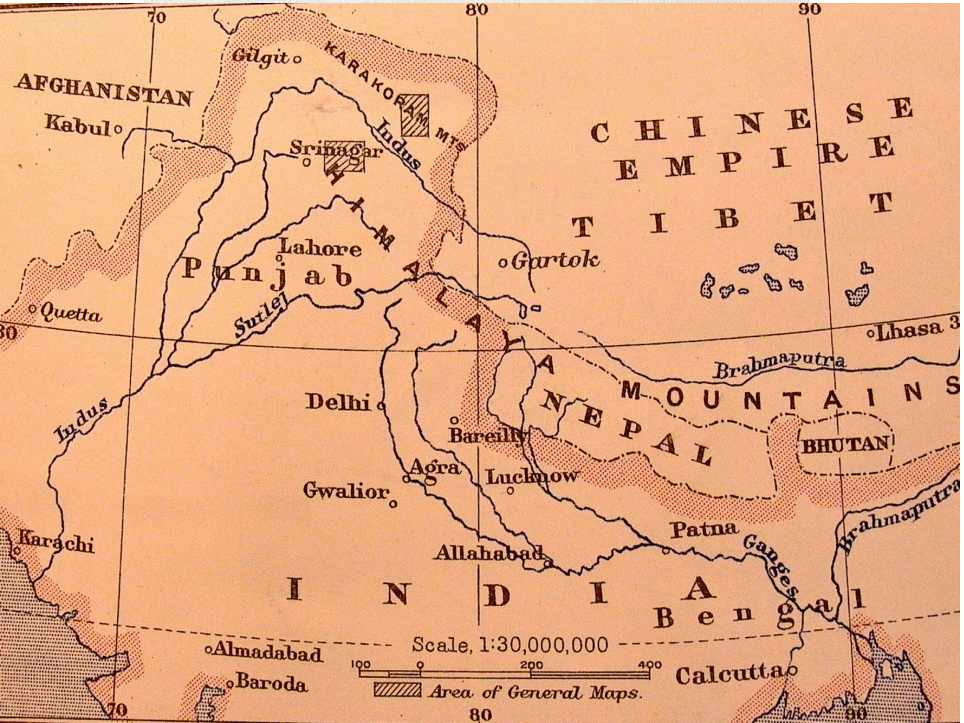
Frontières

Philippe Forêt, pforet@bluewin.ch
Département des langues orientales
Université de Stockholm

Au delà de la frontière scientifique, la frontière du réel en Asie centrale chinoise

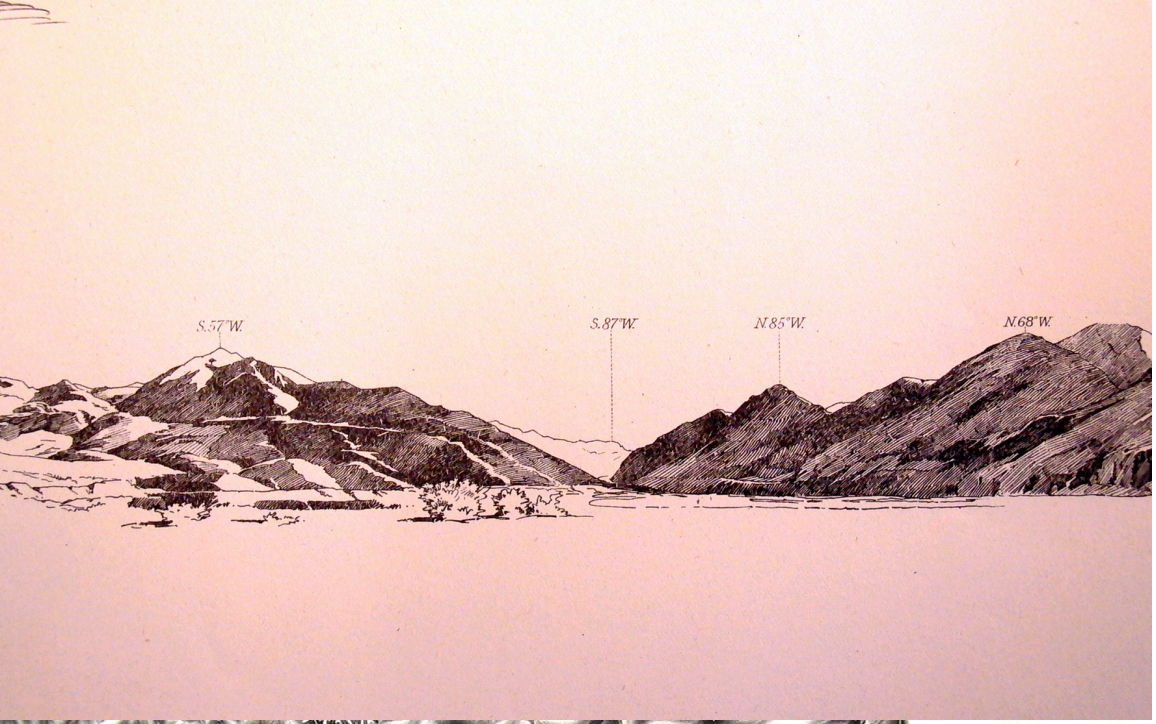


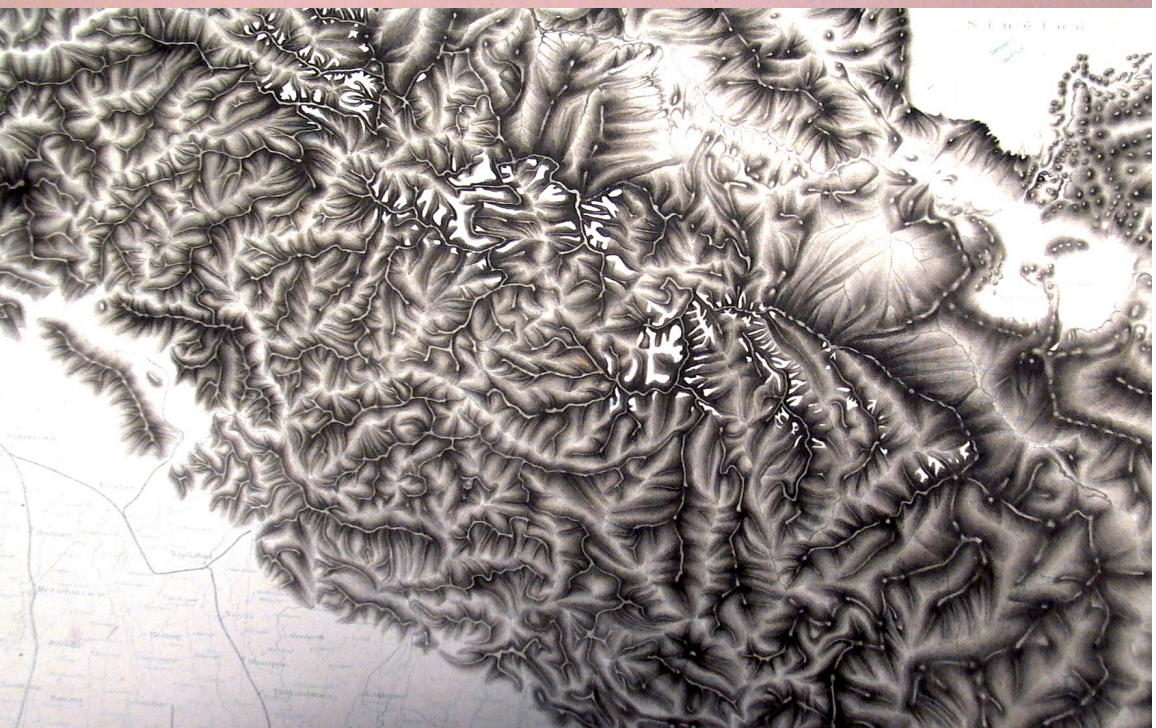
ASIA : the cradle of civilization, the grave of conquest



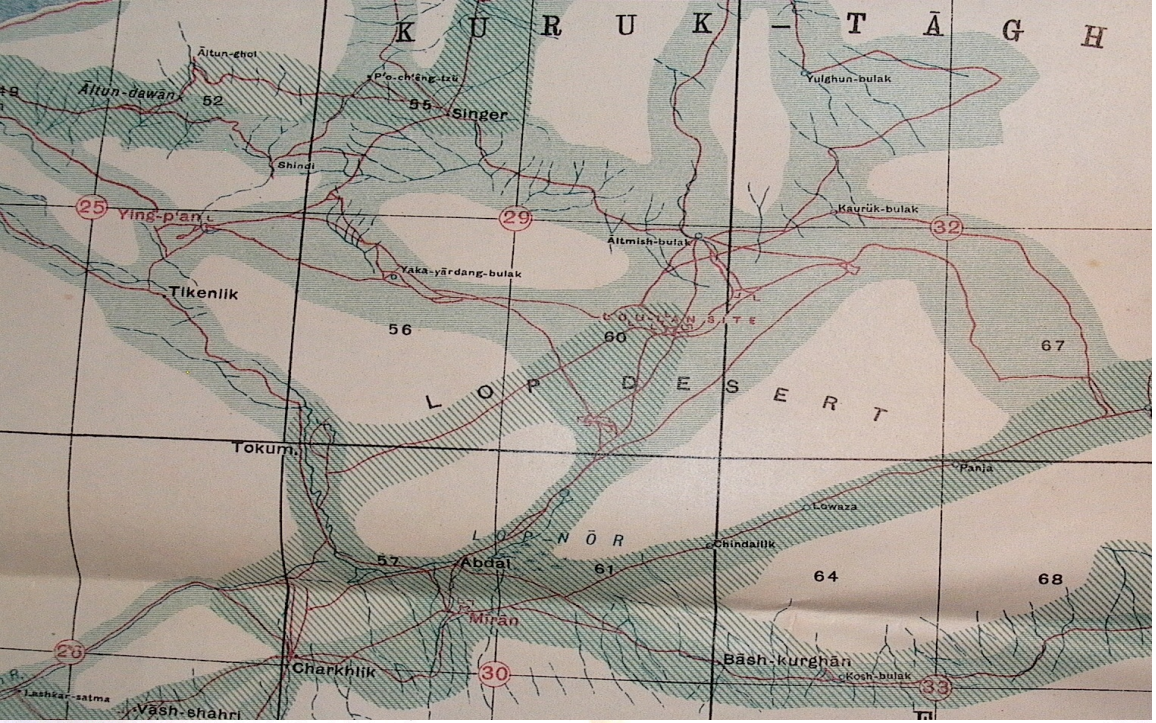
- **The best venue for new concepts: Central Asia**
- Beginning in 1900, the subcontinent became for three decades a new terrain to test theories in the sciences, such as the origin of the white man, the fate of civilization, and the nature of climate change.
- Through its lecture series and discussions and its *Geographical Journal,* the Royal Geographical Society of London (RGS) provided the forums for a lively debate of new ideas.
- "The desiccation of Eurasia" discussion was initiated in 1904 by Piotr Kropotkin. The same year Halford Mackinder identified in Central Asia the pivot of history.

- **Is the Earth Drying Up? How have ancient societies collapsed?**
- To answer these fundamental questions, the correct delineating of the frontiers of ancient Asia was a key issue for field geographers, geologists and archeologists.
- Mapping what happened to the oases, rivers and terminal lakes was conducted to investigate how communities adjusted or failed to adjust to environmental changes.



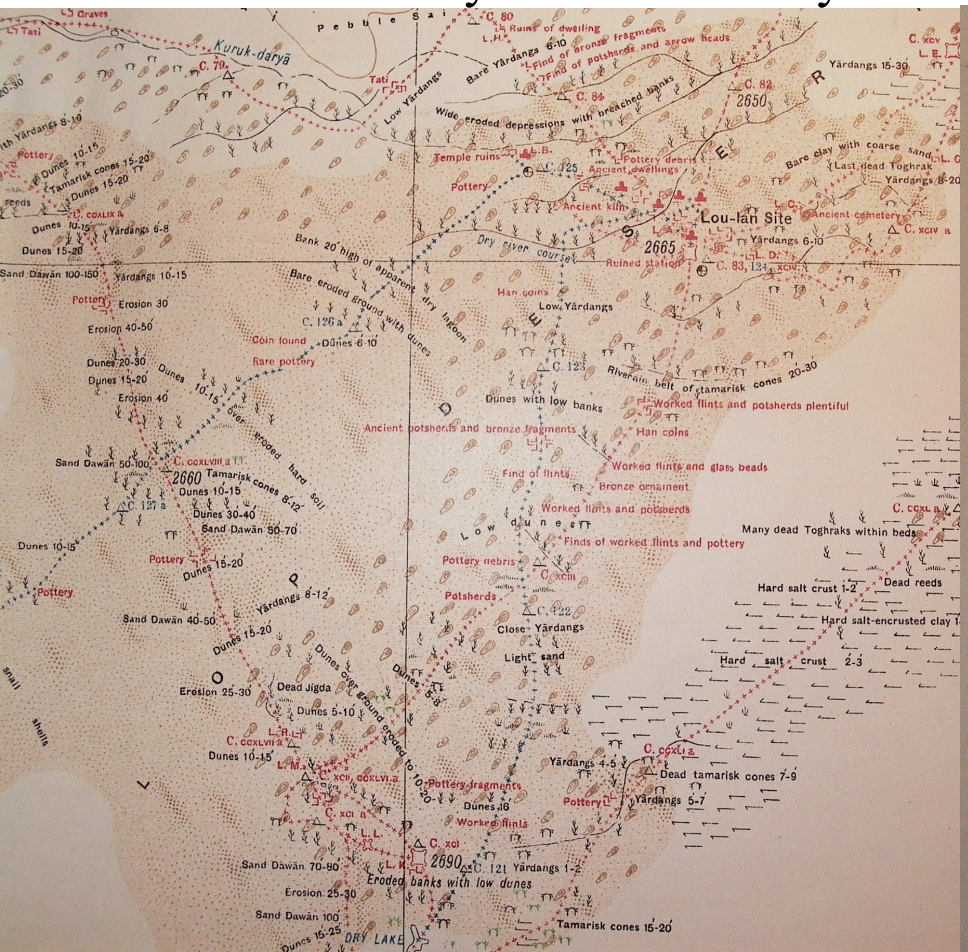


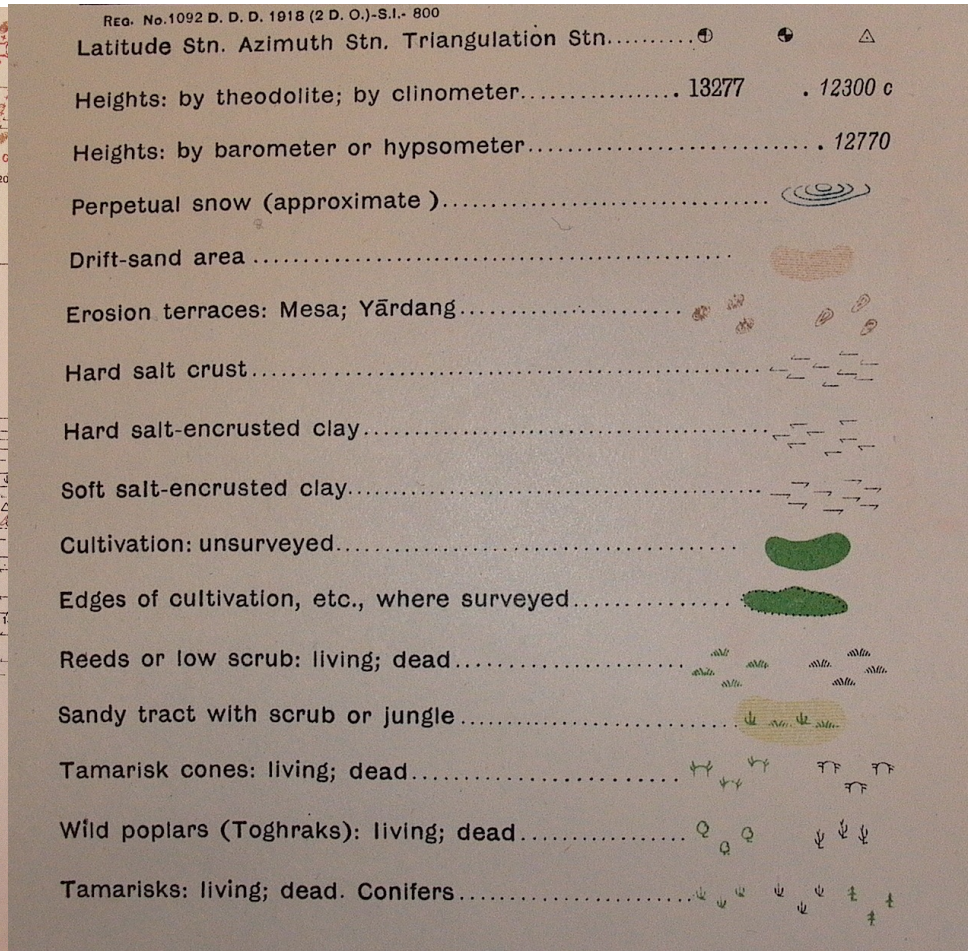
- **Methodology**
- Examining expedition reports, maps and photographs help us reconstruct:
- 1. The environmental and cultural history of the subcontinent
- 2. The scholarly debate on civilization and climate that occurred at the Royal Geographical Society of London
- 3. The link between environmental frontier and cultural frontier



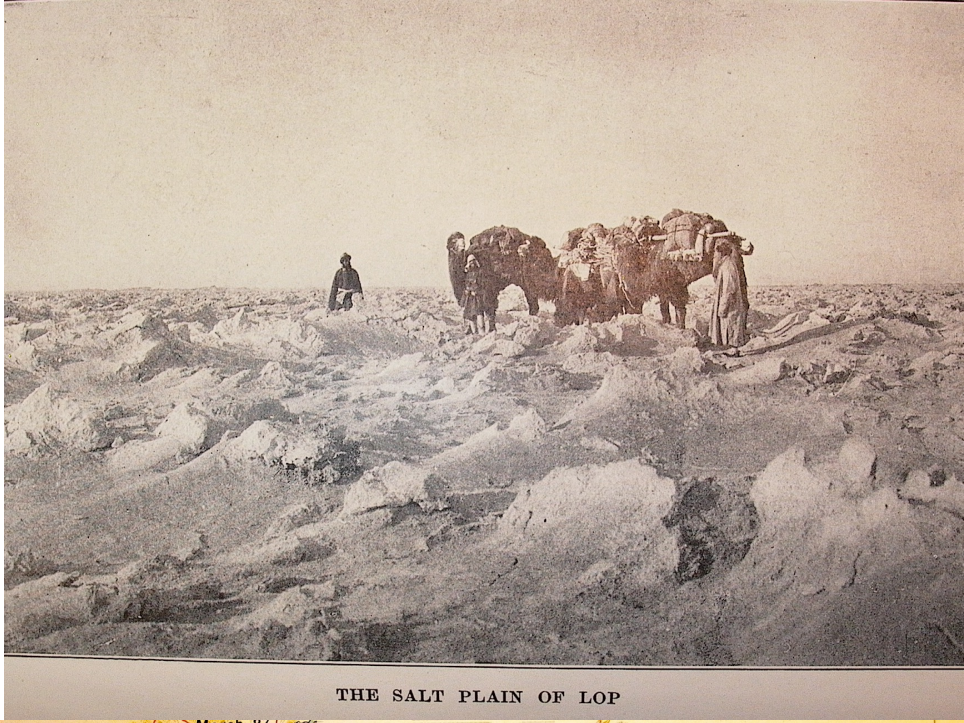
- **A short list of the scientists active in Central Asia:**
- 1893-1897, 1899-1901, 1905-1908: Sven Hedin
- 1900-1901, 1906-1908, 1913-1915: Aurel Stein
- 1903 and 1905-1906: Ellsworth Huntington
- 1907-1909: Piotr Kozlov
- 1921-1930: Roy Chapman Andrews
- 1926-1928: Wilhelm Filchner
- 1927-1935: Folke Bergman, Erik Norin, Nils Hörner, Parker Chen and the “Sino-Swedish scientific expedition to the North-western provinces of China under the leadership of Dr. Sven Hedin.”

- **The survey of Chinese Turkistan: Aurel Stein's map of Lop nor and Loulan**
- Mapping Central Asia was a systematic task that was backed by tools, methods, concepts and language accessible to all. Map captions clearly stated what were the surveyors' first priority: portraying the environmental history and locating the settlements of the entire region.
- During three successive campaigns (1900-01, 1906-08, 1913-15), the routes followed by Aurel Stein's party of surveyors repeatedly crisscrossed the Lop desert for better accuracy and consistency.

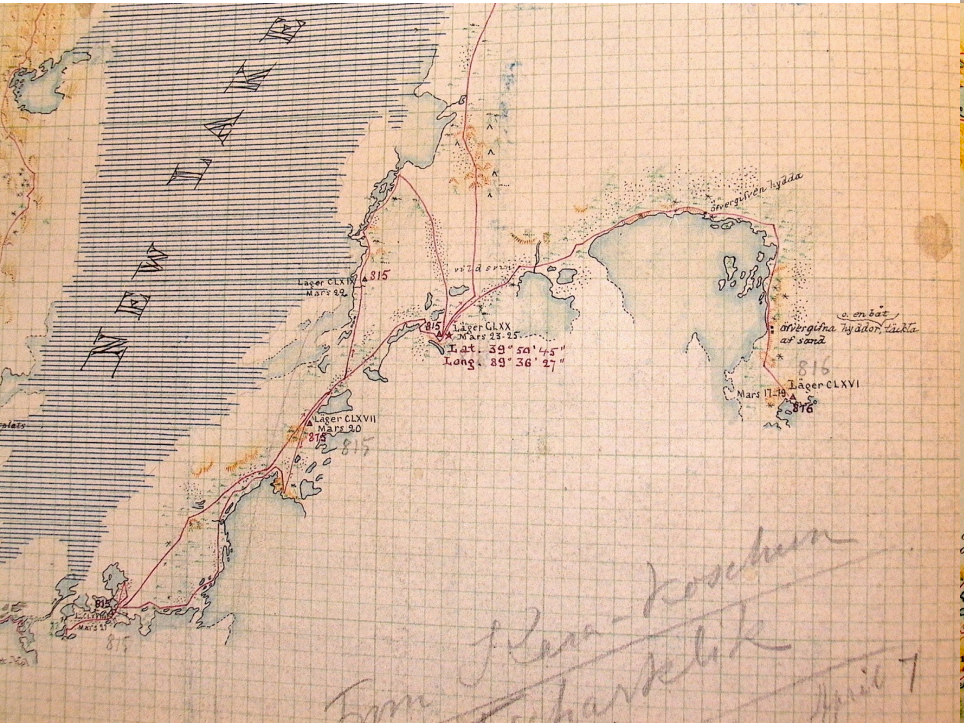


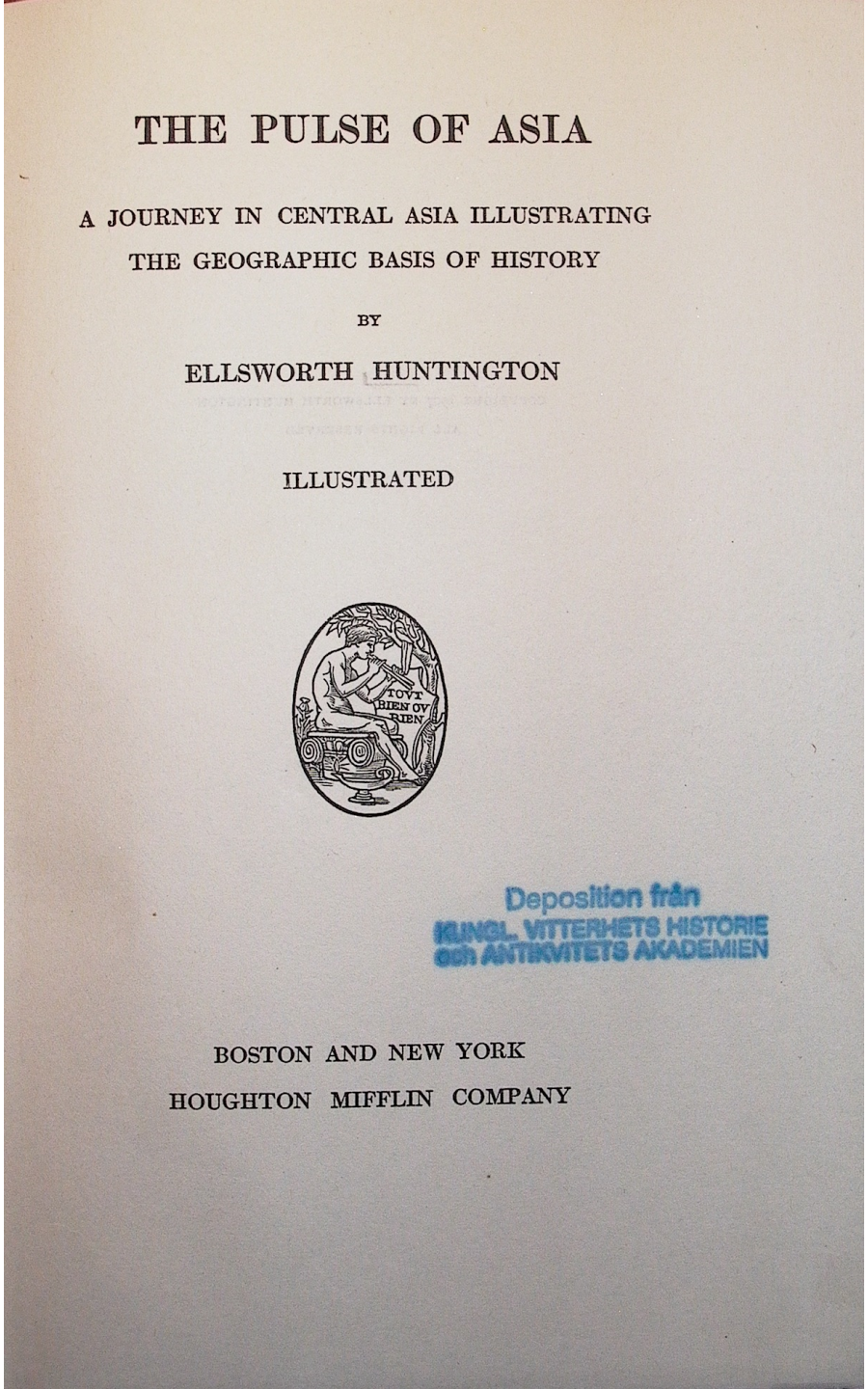


- **The dry bed of Lake Lop Nor**
- Ellsworth Huntington, photograph opposite the *Pulse of Asia*'s front page
- Huntington's photograph of the forbidding terrain gives an idea of the challenges met first by Sven Hedin and Aurel Stein and later by the map-makers of Stockholm and Dehra Dun.



THE SALT PLAIN OF LOP




THE PULSE OF ASIA

A JOURNEY IN CENTRAL ASIA ILLUSTRATING
THE GEOGRAPHIC BASIS OF HISTORY

BY

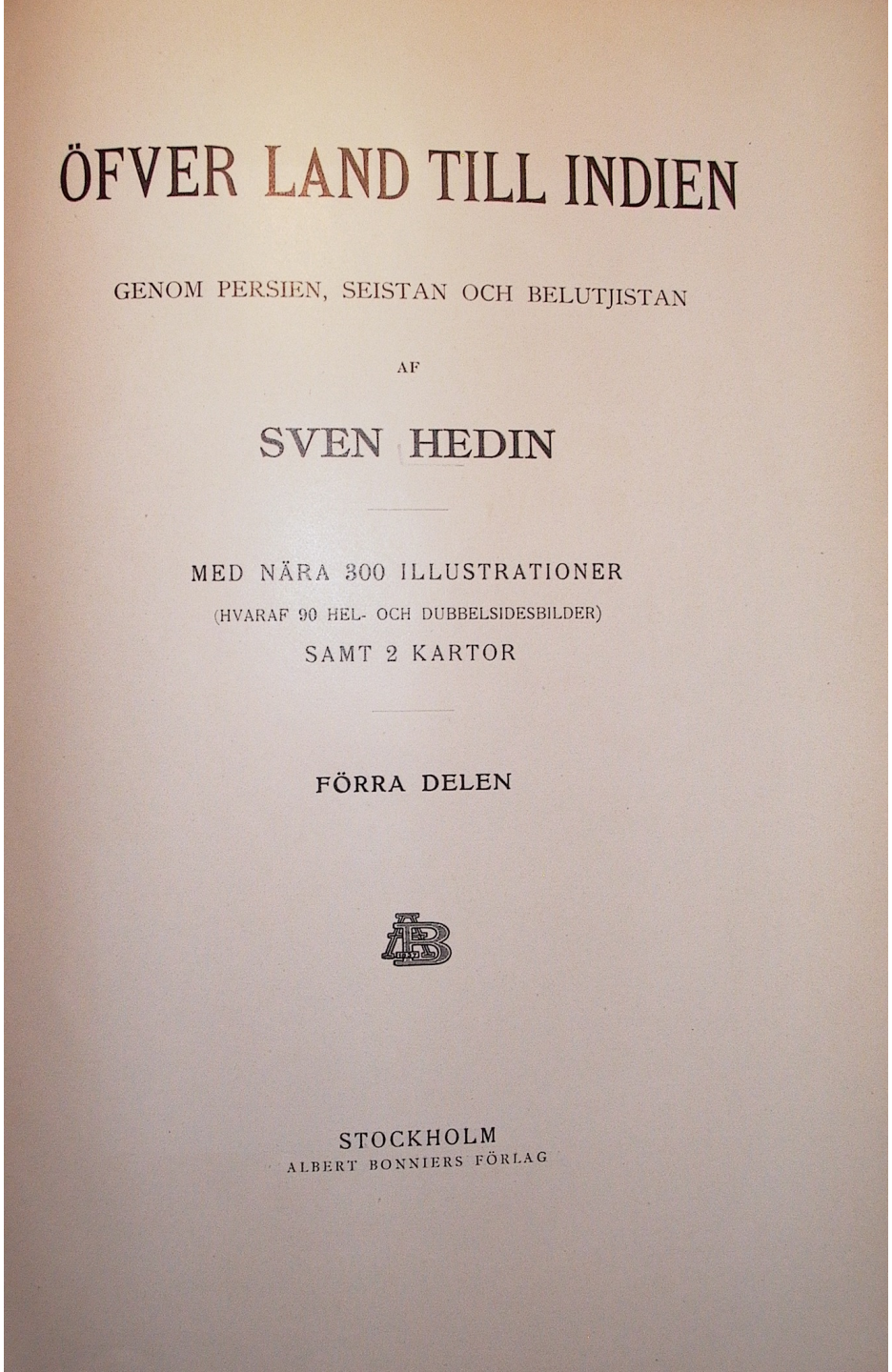
ELLSWORTH HUNTINGTON

ILLUSTRATED

TOVT HIEN OV RIEN

BOSTON AND NEW YORK
HOUGHTON MIFFLIN COMPANY

- **Ellsworth Huntington**
- Had the frontier between civilized and barbarian societies moved according to climatic pulsations?
- *The Pulse of Asia's* ambitious and immature claims irritated many geographers. They disapproved of Huntington without being able to prove him wrong.
- In 1911, the RGS asked in a private letter Sven Hedin what he thought of Ellsworth Huntington's views on climate crises and the rise and fall of civilization. A topic "not worth your time" was the short answer.



- ***Overland to India*, 1910**

  Like Huntington, Hedin was a prolific writer eager to please his popular audience. Although *Overland to India* was not as successful as *Trans-Himalayas* published the same year, Hedin's account of his journey through Iran served several purposes, which were not all clearly stated.

"APERIAM TERRAS GENTIBUS."

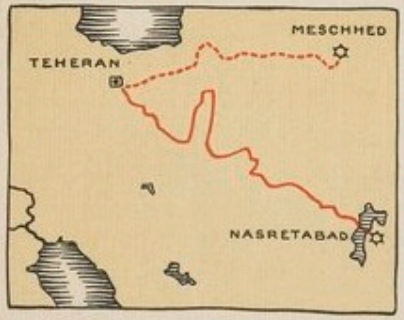
CHAPTER XLIX

ALEXANDER'S MARCH THROUGH SOUTHERN BALUCHISTAN

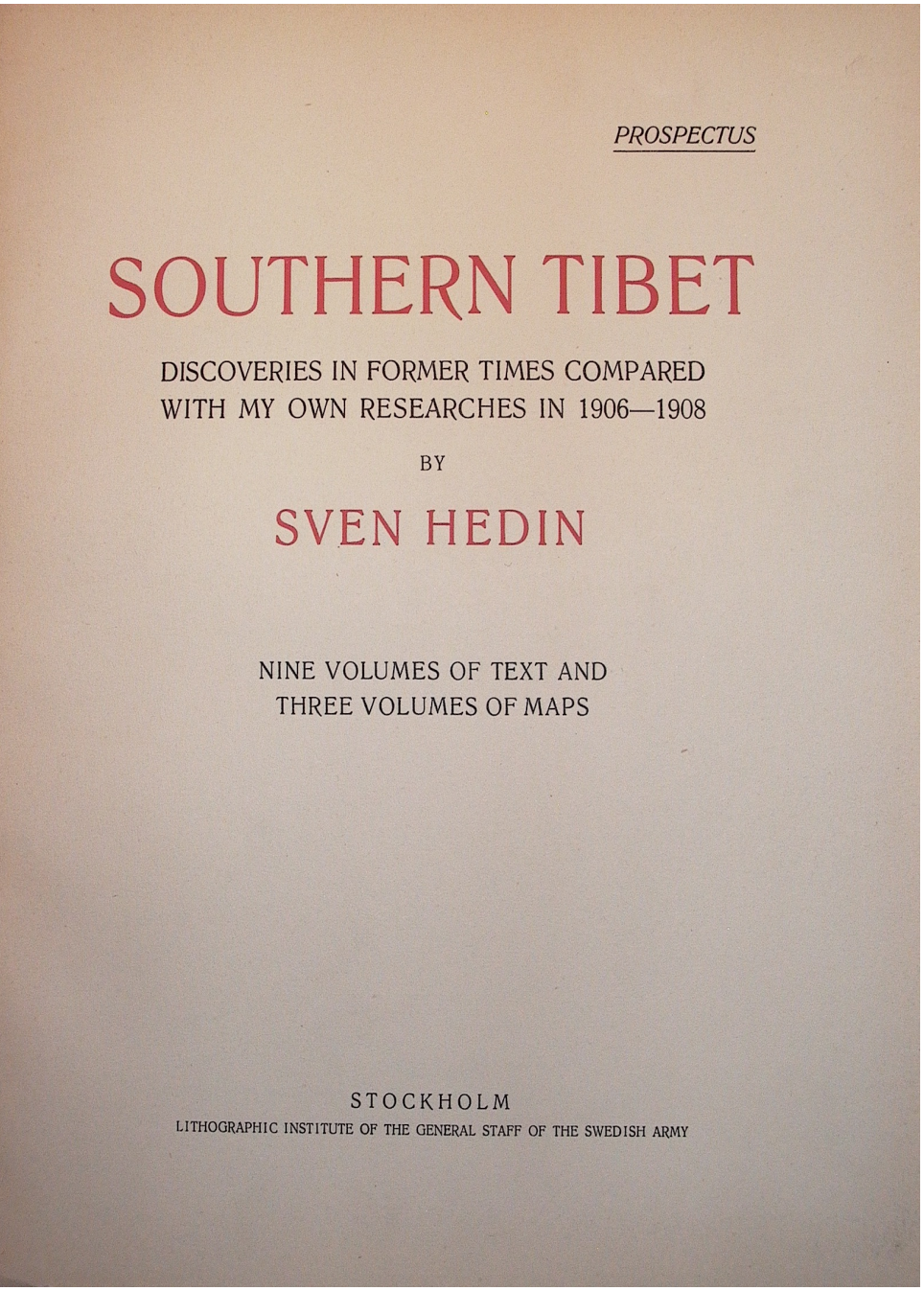
MOST European travellers who have passed through Persia have noticed the number of ruins of towns and villages, caravanserais and mosques, towers, walls, and irrigation canals all along the roads and in districts which are now quite uninhabitable. This is the case, to a greater extent than elsewhere, in the eastern provinces, southern Khorasan, Kerman, Seistan, and Mekran, and no one has represented this with greater clearness than E. Huntington in his valuable work *The Pulse of Asia*, where he devotes a whole chapter to it. He relies on historical data, and, beginning with Alexander the Great, he seeks to prove that it would be impossible at the present time to conduct a whole army along the coast of Baluchistan. He alludes to the utterance of St. John that a Craterus would in our days find it troublesome enough to lead his elephants and his heavy baggage from the Hilmend to Narmashir through

- **The scientific companion to *Overland to India: Eine Routenaufnahme durch Ostpersien* in two volumes plus an atlas**

EINE
ROUTENAUFNAHME
DURCH
OSTPERSIEN
VON
SVEN HEDIN
BAND I.



STOCKHOLM
GENERALSTABENS LIT. ANSTALT



- **Southern Tibet, in 12 volumes**

Likewise, Hedin compiled and published the scientific companion to *Trans-himalayas, Discoveries and Adventures in Tibet.*

- **Careful mapping of the lakes of he Tibetan plateau would help dating the desiccation of Central Asia since last glaciation**
  Sven Hedin, *Southern Tibet,* Vol. 4

- **Hedin measured the depth of Lake Manasarovar to assess how its water level could fluctuate with climate change**
  Sven Hedin, *Southern Tibet,* Vol. 4

- **Hedin' research program spelled out**

1. Proving that the duration of the historical period is so short that human settlements have been not affected by slowly-moving climate change. Only periodic variations can be evidenced, and this at the local level.

2. In other words, proving that Huntington is wrong, without saying so explicitly.

— Vol. II. *My Journey to the Manasarovar and to the Sources of the Satlej and the Indus* (chap. XXII-XXX). — Les sondages de Sven Hedin prouvent que le Manasarovar est probablement le lac le plus profond du Tibet; du moins peut-on affirmer qu'il laisse bien loin derrière lui, sous ce rapport, tous les autres lacs que l'explorateur avait sondés au cours de ses précédents voyages : en 1900, il avait trouvé 48 mètres pour un lac d'eau douce situé dans la partie orientale du plateau, et, en 1901, 47 mètres pour le Panggong-tso. Le Manasarovar ne mesure pas moins de 81 mètres, la partie la plus profonde correspondant à la moitié Sud de la cuvette [149]. Quant au Rakas-tal, la violence du vent, à l'époque où Sven Hedin en parcourait les bords, ne lui a pas permis de le sonder, sauf au voisinage de son extrémité Nord (prof., 28 m.).

A propos des oscillations du niveau de ces deux lacs (chap. XXV), qu'on peut assimiler à des appareils enregistreurs particulièrement sensibles (p. 171), Sven Hedin se trouve conduit à aborder le grave

L'ŒUVRE DE SVEN HEDIN

ET

L'OROGRAPHIE DU TIBET

PAR

M. EMMANUEL DE MARGERIE

CORRESPONDANT DE L'INSTITUT

DIRECTEUR DU SERVICE DE LA CARTE GÉOLOGIQUE D'ALSACE ET DE LORRAINE

PRÉSIDENT DE LA SECTION

Extrait du *Bulletin de la Section de Géographie* du *Comité des Travaux historiques et scientifiques*, 1928.

PARIS

IMPRIMERIE NATIONALE

MDCCCCXXIX

Our camp at Baller on the Oboin-gol was guarded by mighty poplars

- **The Sino-Swedish Expedition (1927-1935)**

  The SSE was a renewed and last attempt to check in Central Asia the validity of climate change as being a progressive phenomenon with drastic consequences on human societies.

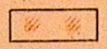
K U M T A G H D

L E G E N D


A-SURFACE ? AND ITS EROSION PRODUCTS


B-SURFACE

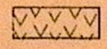

C-SURFACE

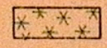

SURFACE PROBABLY RELATED TO C.

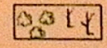

SEMI-LEVEL OR SLIGHTLY UNDULATING SAI NOT REFERABLE TO A.B. OR C.

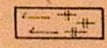

SAND DUNES

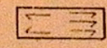

THIN COVER OF FINE EOLIAN SAND ON SLOPE

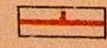

VEGETATION, MOSTLY REEDS ON FLAT BOTTOM OF DEPRESSION

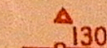

SCRUBS AND TAMARISK CONES


TREES: LIVING, DEAD

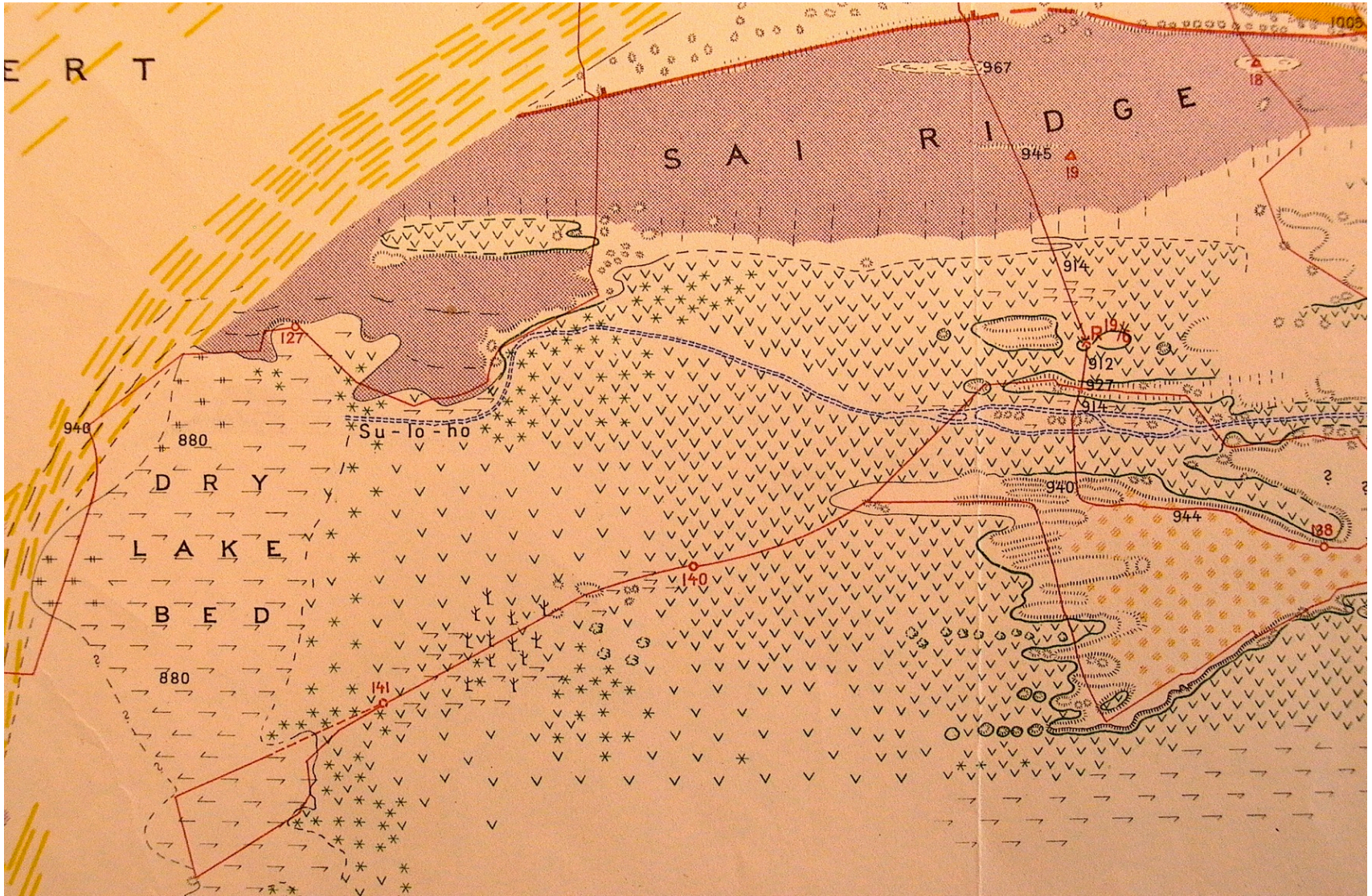

HARD SALT CRUST AND GYPSUM CRUST


SALT ENCRUSTED SAND (IN BESH TOGHRAK VALLEY ONLY SLIGHT ENCRUSTATION)


SHARP FLEXURES AND FAULTS



Triangulation Point T Watch Tower
Route Mapped by Hörner, Camp
Route Mapped by Chen
Line of Spirit Levelling by Chen
987 Figures of Elevation (in Meters) Refering to a Zerolevel 1000 m below Camp 130 on C-Surface at Toghrak Bulak (not to Sea-Level). Elevations along Levelling Lines Spirit Leveled, along Routes by Aneroid, Mountain Tops (not Visited) by Theodolite


E R T
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B E D
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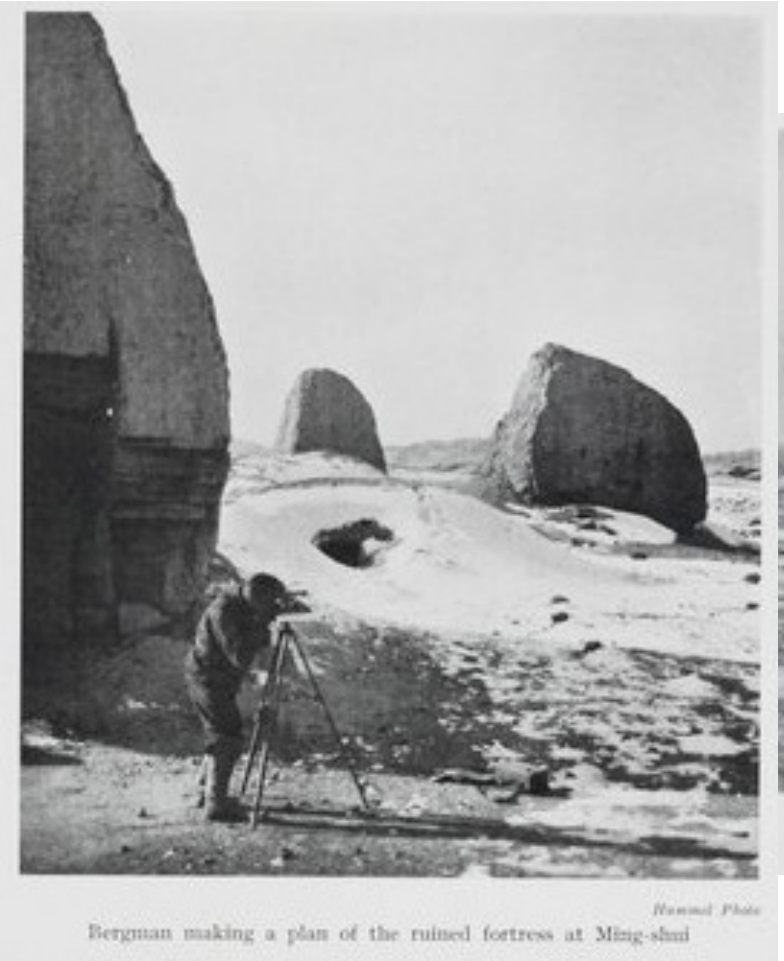
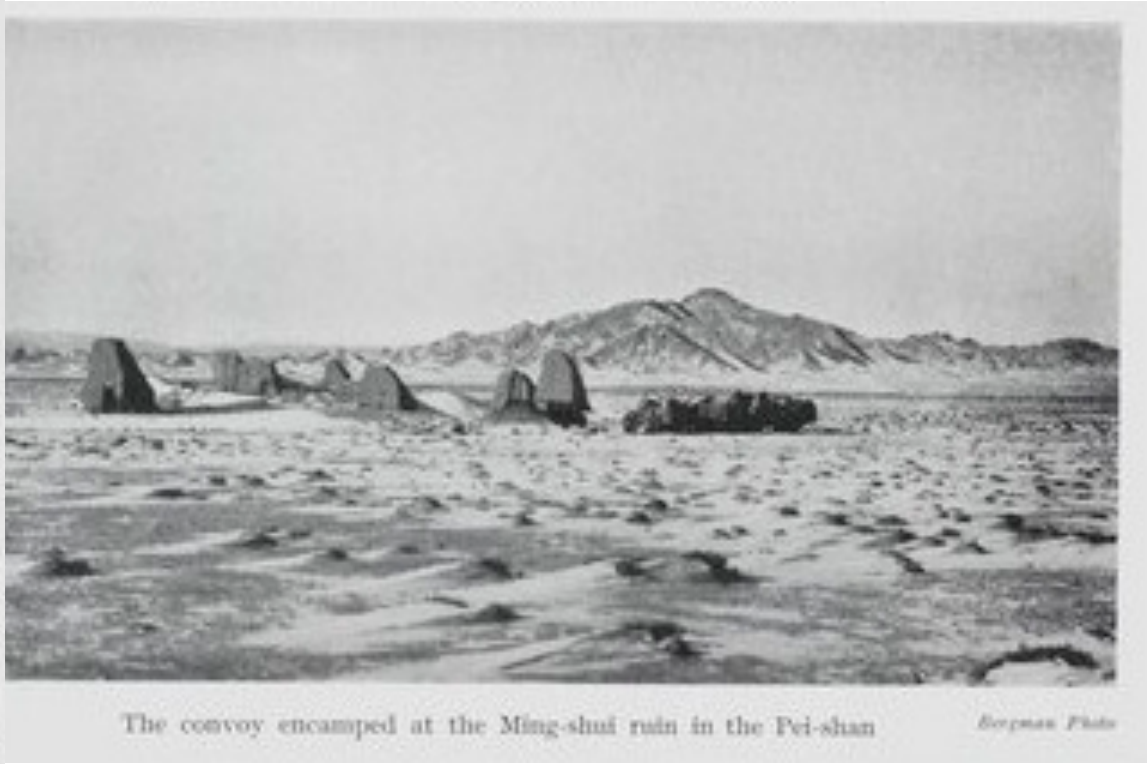
140
141

- **Significant publications resulting from fieldwork done in Central Asia**
- 1904: "The geographical pivot of world history"
- 1904-14: "Is the Earth drying up?"
- 1907: *The Pulse of Asia*
- 1915: *Civilization and Climate*
- 1925: *Toward the Dead City of Kara Khoto*
- 1926: "Climate pulsation during historical times in China"
- 1926: *On the Trail of Ancient Man*
- 1935: "Some river changes and lake displacements in Central Asia"
- 1945: *Travels and Archaeological Fieldwork in Mongolia and Sinkiang*

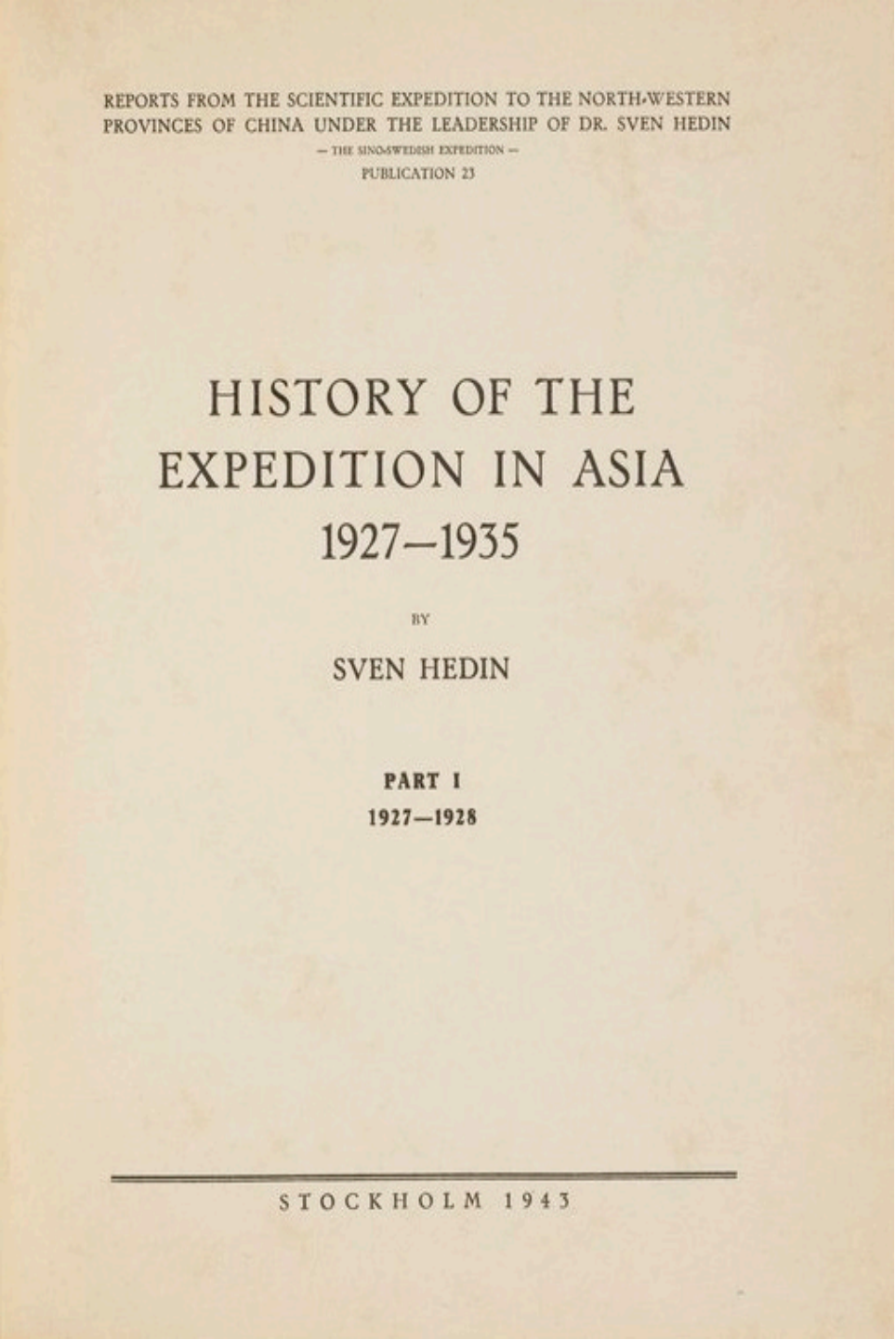
- **The legacy**
- Bergman, Hörner, Norin, Chen, Ambolt, etc. who all worked with Hedin produced a number of reports and articles.
- Their publications would support the thesis of climate change occurring in historical times and with disastrous consequences for Central Asia.
- Their data is ignored by climate scientists today as much as it was by geographers 80 years ago.



Bergman making a plan of the ruined fortress at Ming-shui



The convoy encamped at the Ming-shui ruin in the Pei-shan



- **A final statement in contradiction with the findings of his co-workers and his own**

"Life on the endless caravan-routes and in the tents of the camel-men is as picturesque and variegated as it is agreeable and stimulating to the imagination. These born salesmen have lived and worked thus for centuries, and life was just the same in the caravans which marched with bells ringing through the wide spaces of Asia in olden times, maybe long before the dates mentioned in the oldest records preserved. The conditions were the same then as now; men and camels, country and climate – none has undergone any change worth mentioning."

History of the Expedition in Asia, Vol. 3, p. 22

Merci de votre attention