

# From political report to visual representation : Mongol maps

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# FROM POLITICAL REPORT TO VISUAL REPRESENTATION: MONGOL MAPS

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## *Abstract*

The paper concentrates on the role of Mongolian cartography in the context of the Qing colonial enterprise. Being forced to submit maps in regular intervals to the *Department for the governance of the outlying provinces*, the Mongols developed a variety of techniques to represent space, using and transforming Chinese and European as well as Tibetan and indigenous concepts of visualizing space. Thus Mongol maps managed to convey a meaning far beyond their political purpose. A close examination of Mongol maps shows that they are a means of representing complex spatial relations deeply embedded in Mongolian cultural and religious concepts of the world.

## Introduction

Although more than 600 Mongol maps are preserved in libraries and private collections throughout the world, and many more are probably being kept in Mongolian and Chinese archives, in fact very little is known about the Mongol art of map making. The few mongolists<sup>1</sup> who worked on Mongol maps, focused on their description and catalogization. So far only very limited research has been carried out on the modes of representing space in Mongol maps, and it is far from clear which culturally determined concepts are embedded in the visual representation of landscape in Mongol maps and helped shape them.

In the following I will try to shed some light on Mongol maps as cultural productions. Before embarking on this endeavour, however, two theoretical considerations are necessary. First, we have to take into account visibility as a way of perceiving and constructing world. Secondly, we have to consider maps as visual representations.

1 HEISSIG 1944, KLER 1956, SAGASTER 1961, ŠAGDARSÜREN 1975, HEISSIG 1978, GONCIGDORZ 1979, HEISSIG 1989.

## Visuality

The role of visuality has long been downplayed in cultural studies.<sup>2</sup> I would even suggest that, despite the iconic turn in the early nineties of the last century,<sup>3</sup> visuality as an analytical category in its own right has not yet been fully established in cultural studies. If visuality is taken into account at all, it is mostly used as an addition to and dependent on language. Because visuality is often not considered a basal form of perceiving reality, visual presentations like images, paintings, architecture etc. are neglected as historical sources in their own right. They are rather interpreted in the light of a text, reduced to illustrating it. Visuality as a way of perceiving and appropriating world is thus commonly understood as being subordinated to language represented in a written text. Visuality perpetually bows to language.

Notwithstanding this fact, the ground for a theory of visuality, established in a common semiotic basis of the different cultural forms of expressions,<sup>4</sup> has been well prepared. Already Aby Warburg stressed the dual character of the image as "Abbild" and "Denkbild", thereby anticipating the discussion about sight ("Blick") and perception ("Wahrnehmung") which has later become important in art theory. Furthermore Wittgenstein in his early writings defines thoughts as "logical images"<sup>5</sup> and draws the conclusion that thought manifests itself materially in a sentence.<sup>6</sup> We can pursue the semiotic quality of Wittgenstein's argument a little further: Because the image, like thought, is also a logical image (*Tractatus*, 2.182), thought manifests itself not only in sentences, but

2 An attempt to focus on the importance of visible religion has been made by Hans G. Kippenberg, see his introduction in the series *Visible Religion* VII (KIPPENBERG 1990). Recently an important contribution to an interdisciplinary approach to visuality, combining Science of Religion and History of Art, has been published by Peter Bräunlein, see BRÄUNLEIN 2004.

3 One reason for the *iconic turn* in cultural studies may be found in the "tyranny of images" Neil Postman declared as a landmark of late modernity, see POSTMAN 1985. Studies in visual culture are thus often marked by iconoclastic tendencies, trying to make public the manipulating power of images which can be threatening to society. The inherent danger of images which can be reproduced and manipulated at random has already been pointed out by Walter Benjamin.

4 See BOEHM (ed.) 2001 and SCHOLZ 2004.

5 WITTGENSTEIN 1977:19: "Das logische Bild der Tatsachen ist der Gedanke."

6 WITTGENSTEIN 1977:20.

also in images like paintings etc. Thus visibility, like language, is used as a basic way of communicating thoughts.

The iconological<sup>7</sup> distinction between “image as likeness” and “image as thought” or “material” and “immaterial” images points to the role perception plays in a theory of visibility. In his illuminating essay on Cezanne, Merleau-Ponty has elaborated that the perceiving person does not act outside the perceived reality but within it, that perception and perceived reality are therefore inextricably linked together.<sup>8</sup> Boehm has formulated this relation in the simple words: “The eye is in the world, the world in the eye”.<sup>9</sup> Because of the discrepancy between the perceived perspective on the one, and the photographic or geometrical perspective<sup>10</sup> on the other hand the relation between the eye and the world cannot sufficiently be explained in a theory of resemblance. This has consequences for our analysis of the nature of images: not images of likeness, not just “doubles” of the things perceived, are produced in paintings, but rather new descriptions and new subjective interpretations of reality as perceived by the human eye are created.

Merleau-Ponty and other philosophers and art historians who dealt with theoretical reflections about human perception neglected, however, its culturally conditioned qualities. What we see, what we do not see, how we see and what we ultimately store in our memory is to a great extent dependent on culturally determined factors of which we are mostly unaware. Visibility thus creates “visual knowledge”, the pictorial objectifications of our thought processes which on the one hand are grounded in universally valid anthropological characteristics, on the other hand on culturally conditioned factors.

## Maps as cultural representations

My topic is a specific kind of “image”, the map. Cartographers are still reluctant to apply the term “image” to a map. Contrary to images which are considered to be highly subjective, like paintings and drawings, maps are usually taken as

7 I do not use the term in the sense Panofsky applied it. Panofsky's iconology strongly depends on texts and does not take sufficiently into account the figurative quality of images, see PANOFSKY 1957:42.

8 Merleau-Ponty 1948 (2001):45.

9 BOEHM 2001:19.

10 Ibid.



faithful reproductions of space, producing in a positivistic sense the model of an existing area, on a 1:1 scale. Maps are considered “objective” and “scientific”, not allowing for shifting and unstable relations with local or centralized power, with ideology or gender. The interpretation of map making as “scientific cartography”, as cartographic “truth” in the sense that by applying exact measuring methods a “correct”, relational model of the world is produced, is grounded in the mapping endeavours of the enlightenment and reflects its ideological concerns.<sup>11</sup> This understanding of maps also allows for an evolutionist approach to cartography, establishing its history to develop from the pictorial depiction of phantastic and miraculous worlds to an ever more accurate and precise measurement of space, depicted in abstract signs.

Maps can be read as texts, an approach which has become increasingly fashionable in the light of a deconstructivist reading of maps. The model of the text is not limited to literary texts, it can well be applied to landscapes or maps. As Harley points out,

It is true that literally they have no grammar and lack the temporal sequence of a syntax but ‘what constitutes a text is not the presence of linguistic elements but the act of construction’ so that maps, as ‘constructions employing a conventional sign system’ (McKenzie 1986:35) become texts... Maps are a cultural text: not one code but a collection of codes, few of which are unique to cartography.<sup>12</sup>

Instead of talking about maps as cultural texts I suggest to talk about maps as images. Maps as images are a distinct mode of visual representation and, as all visual representation, they are culturally produced. Maps as images do not present a faithful description of space, but an image that is shaped by specific notions of culturally produced knowledge, creating a distinct worldview, promoting and enhancing it through the map. Therefore maps are not neutral and objective resemblances of space and landscape but, being embedded in the map-producing society and reflecting its worldview, they represent its socio-religious, political and economic hierarchies. If the mapping codes are deciphered and contextualized, the technical coordinates of representing space reveal to us the social and cultural coordinates of the map-producing society. Maps, however, not only represent the norms and values of a given society, they also enhance and shape them by hierarchizing its space. The signs used in maps often have a multi-layered meaning, as will become apparent in the symbolism of the

11 HARLEY 1992:234–235.

12 HARLEY 1992:238.

*obo* which features prominently in Mongol maps. In short: maps can be used as visual sources in their own right to describe and interpret the worldview and the power relations of a given society.

## Origins of the Mongol map

The Mongol map provides an excellent illustration for the crucial position the Silk Road occupied for many centuries in the exchange of textual and visual knowledge between different countries, cultures and languages. The long-distance trade provided the means and opportunity to trade ideas and images which were changed and adjusted to new social and cultural circumstances. The underlying geographical matrix of Mongol maps was the system of the 24 directions based on Tibetan and Chinese astrological and astronomical knowledge. The system originated in India and was transmitted via the Silk Road to China, from whence the Tibetans adopted it, probably as early as in the 8<sup>th</sup> century C.E. This astrological system which also served as the basis for calculations of space and distance was probably introduced into Mongolia from Tibet as well as from China, probably as early as the 13<sup>th</sup> or 14<sup>th</sup> century. The Mongol map of the Qing era is thus partly a product of the representations of visual knowledge transmitted along the Silk Road centuries ago. Mongol map making, however, proves to be a multi-layered process revealing various and even contradicting influences. Since the 18<sup>th</sup> century Mongol maps show a distinct influence of Chinese cartography. Under the Kangxi emperor the traditional Chinese art of map making underwent a dramatic change, due to the impact Jesuit geographical knowledge and their map making had on Chinese cartographers. Thus Mongol maps are not only influenced by Indian, but also by Chinese and even European concepts and ideas. The Mongols transformed and adopted these various concepts in order to visually represent Mongolian notions of space. Apart from this Mongol maps also reveal a lot about the relations of power between the centralized Qing government and the local Mongol rulers. In the following I will try to shed some light on these multi-layered meanings embedded in Mongol maps.

## The beginnings of Mongol map making: A matter of ideological concern

In 1930 the archaeologist Folke Bergmann allegedly bought heavily damaged fragments of maps from an inhabitant of an oasis near the Edzinghol, approximately a four-day journey away from Suchou, near the remnants of two ancient towers. The script of the maps was Mongolian, executed in the manner of the Uiguro-Mongolian script of the 13<sup>th</sup> to 17<sup>th</sup> centuries. This information was given in an oral communication to the mongolist Walther Heissig by a temporary staff-member of the Sino-Swedish expedition led by Sven Hedin in the years 1928–1931.<sup>13</sup> Unfortunately, these alleged fragments of Mongol maps never since resurfaced, and we do not know whether there is any historical validity to this tale.

Although up to now we do not have any data affirming an early beginning of Mongol map making, Mongol scholars persistingly claim that map making in Mongolia dates back to the 13<sup>th</sup> century. They assert that the maps the Khitan prepared and which are accounted for as early as 1179, can be seen as the direct predecessors of Mongol maps.<sup>14</sup> In the 20<sup>th</sup> century, during the high time of socialist re-interpretation of Mongol history, Mongolian historians even claimed the Turkish Xiong-nu as their predecessors and drew a direct line from their use of maps to Mongol map making.<sup>15</sup>

Cevelijn Chagdarsüren,<sup>16</sup> a Mongol scholar whose main field of research is Mongolian geography and mathematics, tells us that in the Yuan era the Mongols were highly learned in geography and even used instruments such as a globe, in Mongolian *γajar-un körösün-ü dürimtü saba* (“receptacle being a model of the earth”). These data are preserved in the *Yuanshi*, as he asserts.<sup>17</sup>

13 HEISSIG 1944:124, n. 4.

14 See GONCIGDORZ 1979:56.

15 For the Xiong-nu and their maps see TASKINA 1973:70.

16 In European transcription also written “Šagdarsüren”.

17 ŠAGDARSÜREN 1989:266 gives *Yuanshi* 48 as his source. See also CHAGDARSÜREN 1975:343–369.

## The earliest Mongol maps

The oldest known Mongol maps date from the Yongzheng era. The Swedish sergeant Johan Gustav Renat,<sup>18</sup> who had been imprisoned by the Kalmuks under their sovereign Galdantsering, around 1733/1734 returned to his home land, bringing with him two maps which are known as the *Renat maps*. Nowadays both maps are preserved in the University library of Uppsala, the *Carolina Rediviva*. Renat himself gives the following information about the two maps in a letter to the librarian, Andreas Norrelius:

I have been [a prisoner] under these Sungars and ... obtained the largest map ... from the Chinese when they attacked the Kalmucks at Barcöll [Barkul] or Turphan [Turfan] which town is marked on some maps and lies on their boundary. I have copied this half of it ... with Roman letters and thought to translate the other half in the same manner; but the minute writing, together with my dim eyes have hindered me... the later (?) [map] was given at my request at my departure by the Sungar ruler as well as the later one which he also himself made of his country, and although I could put in many names of mountains and rivers therein marked I have preferred, notwithstanding, to leave it as I myself received it from the Ruler, for I have found on other maps names both of places and rivers which in my seventeen years residence there I never saw or heard of.<sup>19</sup>

The first map (Renat-I), which Renat maintains was made by Galdantsering<sup>20</sup> himself (which could mean that the Qung taiyiji himself drew the map, or that he commissioned it), is unlike Chinese maps of the time. Being painted in green and blue colours, the rivers resemble those of Chinese maps, but the mountains are painted on a ground-plan, differing from the Chinese way of representing mountains at that time.<sup>21</sup> The map gives a detailed description of Dzungaria, containing all in all 238 place names.

18 About Renat and the maps he brought home see KROOK 1948:285–291.

19 The letter was written at Stockholm on April 25<sup>th</sup>, 1743. It is cited *verbatim* in BADDELEY 1919, I:clxxviii. My gratitude goes to Åsa Henningson, librarian in the Maps and Prints Section of the *Carolina Rediviva*, who showed me the letter written by Renat as well as the two Mongolian maps and Renat's copies of them during my stay at Uppsala University in September 2004.

20 He reigned from 1727–1745 over the Dzungar territory.

21 Compare for example the depiction of the mountain ranges in the coloured map of the Yongzheng reign in ten rows, pictured in Cao WANRU et al. 1997: No. 26, description on pp. 29–30.

For a long time the Kalmuk origin of the map was contested. Baddeley<sup>22</sup> argued that the Renat-I-map must be based on a Kalmuk original, because it contains very detailed information which at that time were available neither to the Russians nor to the Chinese. The Chinese did a cartographical survey of Central Asia up to Hami, but not further west, whereas Renat-I shows much territory the Chinese did not map. Moreover the Chinese were at this time deeply influenced by Jesuit cartography, to which this map does not show any resemblance.

Renat-I may have been commissioned by Galdantsering from European prisoners of war, including Russians and Swedes, who used sophisticated surveying techniques. But this assertion is not proven and solely rests on the well known fact that Galdantsering used in other contexts European technology when it was available to him.<sup>23</sup>

The second map Renat brought home to Sweden is a map copied and improved by Ölöt Mongols from a Chinese original. It shows Central Asia, stretching from the Kökenor lake in the South-east to the Selenga river in the North to Turfan in the West, and contains 536 place-names of the region. The map shows some Chinese influence, especially noticeable in the drawings of the mountains. There is still a considerable difference to the well known maps of the Kangxi- and Qianlong era, probably due to the Mongol copyist.

We can only speculate as to the purpose of these earliest surviving Mongol maps. The Chinese map on which Renat-II is based, in all probability fell into the hands of the Kalmuks some time during the first Dzungar war.<sup>24</sup> Cartography is often put to use for military purposes, and this may well have been the case here.

### Chinese cartography in the 17<sup>th</sup> century

Emperor Xuanye, better known under the appellation of his government, Kangxi<sup>25</sup> (1662–1722), was one of the most remarkable emperors on the Chinese throne. Being a descendant of the first generations of the nomadic Manchu

22 BADDELEY 1919:clxix.

23 BADDELEY 1919:clxxvii.

24 See VEIT 1986:451–453.

25 In Mongolian *engke amuyulang*, “peace, tranquility”.



people who overthrew the Ming government in 1644,<sup>26</sup> the Kangxi emperor was more comfortable using his native Manchu than the Chinese language. Due to this fact we have, beside the official documents of his reign, several hundred letters and fragments, most of them in Manchu, written by him. His ways of thought are thus well documented. The Kangxi emperor was extremely interested in getting to know all kinds of sciences like astronomy, mathematics, optics, mechanical technologies, medicine, and even music. The Kangxi emperor's wish to have his empire mapped had several reasons, as Laura Hostetler states:

Mapping would serve a number of functions. Most obviously it would allow for better knowledge of the realm and concomitant military advantages in both conquest and subduing revolts. But representing territory cartographically was also one way to lay claim to it. Using scaled maps, easily interpretable by anyone trained in the same map idiom, was an effective way to stake out claims of empire to an encroaching Europe; the Kangxi atlas defined what China was territorially to the rest of the early modern world and remained the standard map of China internationally for well over a century.<sup>27</sup>

Comparing the Kangxi emperor and his reign with the rising imperial powers of Western and Eastern Europe, many parallels can be drawn. One of the most striking ones is to be found in the expansion of the Russian empire under Peter the Great and the Manchu empire under Kangxi. Both these emperors were extremely keen to learn from "Europe",<sup>28</sup> but it was not the same Europe they got to know. Peter the Great got his inspiration from the Europe of the Enlightenment, whereas the Kangxi emperor encountered the world of the Counter-Reformation.<sup>29</sup> During Kangxi's reign Jesuit activity in Qing China was at its peak. Since the first Jesuit contacts with the Chinese, cartography played an important role in the transfer of knowledge, as can be noted in the fairly widespread attention and circulation Matteo Ricci's (1552–1610) world map experienced. Ricci, one of the first Jesuits to enter China, prepared this famous map together with his Chinese colleague Li Zhizao and put it into print in Pe-

26 For a historical overview of the events leading to the downfall of the Ming and the rise of the Manchu power under Nurhaci and Hung tayiji see CROSSLEY 1997:47–87.

27 HOSTETLER 2001:79–80.

28 The cultural notion of "Europe" in the 18<sup>th</sup> century is a very different one to the "Europe" of our post-modern era. In the 18<sup>th</sup> century countries like France or England considered Russia as belonging more or less to Asia, whereas in Russia the elite thought of themselves as "Europeans".

29 CROSSLEY 1997:91.

king in 1602. According to Ricci's own estimation, more than a thousand copies of his world map were reprinted.<sup>30</sup>

## Pictorial and abstract maps in the Qing Empire

In Qing China we can distinguish two types of maps, that are related to each other. On the one hand the Qing used pictorial maps heavily relying on text and not on scale, including in their representation of space the inhabitants of the territory, be it men or beasts.<sup>31</sup> This kind of map was not only produced by Chinese cartographers, but also by Europeans, following the European habit to illustrate maps with ethnographic details like costumed figures which was still prevalent during the seventeenth century. Thus both Europeans and Chinese shared common features in map making in the early modern era. Pictorial maps used both in Europe and in China (and probably also in other parts of the world) can be described as using a code limited to a specific society and mode of representing their world-view. The understanding and use of pictorial maps is therefore mainly confined to the cultural group or society by which they are created.

Many of the maps in early modern Europe and China, besides extensively relying on text and pictorial elements, also make use of abstract elements, like using a ground-scale and exact measurements. A good example of such a map is Ferdinand Verbiest's world map, prepared in 1674 during the Kangxi reign. Done on an estimated scale of 1:13,350,000, the map shows Asia, Africa, Europe, the South and North Americas as well as Australia and Antarctica. It includes a lot of text as well as beautiful, coloured illustrations of rare animals.<sup>32</sup>

On the other hand we have the abstract map, relying on exact measurement and representing space in a code not bound to a specific culture and worldview, but readable to anyone who is trained in reading this particular genre. The development of modern cartography is not a European endeavour alone but rather an endeavour of the early modern era, used in Europe and Qing China alike. The Kangxi emperor and his successors, especially Qianlong,<sup>33</sup> put into use the advanced European cartographical knowledge for their imperial purposes. The

30 HOSTETLER 2001:52–53.

31 See for example the maps of the Salt wells of Southern Yunnan, prepared in the 46<sup>th</sup> year of the Kangxi reign (1707), in Cao WANRU et al. 1997:Nos. 16–19.

32 A good reproduction of this map is given in Cao WANRU et al. 1997:No. 4.

33 See CROSSLEY 2002:271–2.



cartography employed did not completely discharge traditional map making. Even in the late Qing era both types of maps co-existed, and both fulfilled their specific purposes. Moreover, both types of maps often tend to blend together.

The most well-known example of an abstract map in the Qing era is the so-called “Kangxi Atlas”,<sup>34</sup> commissioned under the Kangxi emperor. Devoid of any pictorial elements and based on astronomical points in order to calculate latitude and longitude, it is executed to a precise scale.<sup>35</sup>

The famous project of the Kangxi atlas<sup>36</sup> was not only an enterprise born of the encounter of the Qing Empire with early modern Europe, it also served a domestic policy. The employment of maps in the colonial enterprise of the Qing empire aimed at laying claim to the “outer territories” (Mong. *yadayadu*), the nomadic regions at the outskirts of the empire. The Kangxi emperor set out to “tame” the nomads, and in the course of one century the Qing empire had indeed achieved its goal and transformed the nomadic societies of the Mongol tribes into a semi-nomadic society in which space was clearly delineated and its use under the keen surveillance of the state.<sup>37</sup> Cartography was employed as one out of several means to ensure the domestication of the Mongols. We will see that in the codes of the Mongol maps prepared under the Qing the social and political order is deeply embedded.

### Mapping the Outer Regions: Mongol cartography as a political report

When the Khans of the Qalqa Mongols formally accepted the Kangxi emperor as their supreme sovereign at Dolonnor in 1691, they were quickly and efficiently incorporated into the Manchu empire. Already at the beginning of the

34 *Huangyu quanlan tu*, literally “Map of a Complete View of Imperial Territory”.

35 For the several versions of the Kangxi atlas and its different ways of delineating the Qing claim to the border regions see HOSTETLER 2001:75–76.

36 FUCHS 1943.

37 This transformation can be read from the changing meaning of the Mongolian *nutuy*, the pasture-land of the nomads. Whereas in the 13<sup>th</sup> to 16<sup>th</sup> centuries the term denoted a territory which belonged to a social group of patrilineal descendency, since the 17<sup>th</sup> century the term was understood to denote a social and economic unity which was governed by a local prince. The *nutuy* in the Qing era was a clearly delineated pasture land over which a local *Tayisi* or *Jayisang* ruled. The ranks of *Tayisi* and *Jayisang* were bestowed by the Qing government.

17<sup>th</sup> century the Manchus had started a restructuring of the Inner Mongolian regions under their dominion. Instead of the *ayimay*, an extended family group bound to a territory by worship of the territorial deity, the Manchus created the new administrative unit of the “banner” (Mongolian *qosiyun*).<sup>38</sup> In contrast to the old shifting *ayimay*-borders the borders of the banners were fixed, and the *Department for the governance of the outlying provinces*<sup>39</sup> took great exertions to supervise the correct observance of the banner-borders. After their submission the Qalqa Mongols underwent the same restructuring of their traditional pasture lands as the Mongols in Inner Mongolia. One means to administer the observance of the banner-borders was by way of preparing maps for each of the Mongolian administrative units (*qosiyun*). In the 29<sup>th</sup> year of Kangxi (1690) the *Li-fan yuan* issued the following order to the prince (here: *ejen*) of the Tumud-banner:

Order of the Department for the governance of the outlying Mongolian provinces: ... Now quickly present the following about the Mongols of the different administrative units, explaining and writing down one after the other: The pasture lands of each banner, also the name of the banner and its territory; the extension in number of miles of each banner territory in all four directions, to the east, the west, the south and the north, and also the number of routes; also the borders where one county meets the borders of another county; the mountains, rocks and ruins, the temples and monasteries, the bridges, ravines and mountain passes which are extant in the pasture land of every banner; furthermore the products of the county and the taxes paid, the persons of rank and dignitaries, the law and the customs, the number of ger<sup>40</sup> and the numbers of the families...<sup>41</sup>

## Main features of the Mongol map

During the whole Qing era the Mongol nobles had to submit maps of the banners in their jurisdiction which served as official reports to the *Li-fan yuan*. The maps always document the pasture-lands of only one banner and its exact bor-

38 See RAWSKI 1998:61. In Mongolian the *ayimay* as a military structure was also called *qosiyun*. The Manchus used the same term, but applied to it a different meaning.

39 Manchu *tulergi golo be dasara jurgan*, Mongolian *yadayadu mongyol-un törö-yi jasaqu yabudal-un yamun*, Chinese *Li-fan yuan*. See KÄMPFE 1986:420–421.

40 Literally the Mongol yurt, but here denoting “household”.

41 *Collection of materials for the history of the Bayantala league*, KALGAN 1942, p. 32, cited after HEISSIG 1944:129–130, who gives the Mongolian text and a German translation.

der-lines. Maps depicting the whole of Outer Mongolia or even two or three banners together were not prepared.

Mongol maps were usually manuscript maps. As in China, also in Mongolia we can distinguish between two different types of maps, the pictorial and the abstract map, each of these two types also using elements of the other type and thus blending together. The Mongol map draws on Mongolian codes of representing space. The most striking traditional, culturally-embedded code is the *obo*, a small heap of stones, sand or earth, as a means of marking territory. Moreover the Mongols used the above already mentioned system of the 24 directions, based on Indo-Tibetan and Chinese astronomy and astrology, as a ground-plan for the outlay of their maps. They also used pictorial elements strongly influenced by Chinese landscape-painting to illustrate their maps, along with lengthy text passages on the maps. The last-mentioned codes have been transformed and fitted into the Mongol mode of representing the world, as can be seen in the way the Mongols adopted the Chinese way of drawing mountains: They did not so much present them in a schematic way, but drew them in profile to their actual size and form. Mongol maps drawn in a pictorial style nevertheless were most often drawn on a network of squares which made it possible to measure the exact distances. They thus combined elements of a universally readable code with elements of a code limited in understanding to the Mongolian and Chinese societies of the early modern era.

Some maps of the Mongols operate on a more abstract level. The “map of the region of the Yeke mingyan-banner”<sup>42</sup> serves as an example for this type of map. It is a ground-plan map, executed in black ink with the caravan ways marked in red. The map makes use of an abstract system of signs which are explained in a legend accompanying the map. Thus its readability is not limited to the cultural context it derives from but potentially readable for everybody who is able to read Mongolian and thus understand the legend.

### Marking the borders: The obo

The most important knowledge the Qing officials gained from Mongol maps was the exact location of the banner-borders. On the maps the course of the

42 *Yeke mingyan qosiyu-yin yajarun jiruy*, described by Klaus Sagaster, in HEISSIG 1961:No. 780, 406.

boundary-lines was marked by the exact specification of the position and name of the individual boundary-posts, that is the *obos*<sup>43</sup> mentioned above. In the open country the border-*obos* could be easily destroyed by man or nature. Therefore in the 19<sup>th</sup> century the banner nobles had to make sure every year that the *obos* marking the banner-borders were still intact.<sup>44</sup> It is interesting to note that the Manchus used a traditional religious and highly symbolic Mongolian marker of territory to confirm their colonial claims. In the traditional Mongolian religion an *obo*, literally a “heap”, often seen at mountain passes and decorated with prayer flags and various offerings, is a visual representation of the Mongolian concept of the world. Traditionally the Mongols imagine the world consisting of three layers. The first layer lies under the earth and is inhabited by various spirits. In the symbolic representation of the *obo* the lower world is hidden under the visible heap of stones or other material. If an *obo* is erected, underneath it a box containing holy texts or other holy objects is buried, simultaneously representing the lower world and serving as an offering to its inhabitants. In former centuries a bird was attached to the top of the *obo*, representing the upper world. The *obo* itself represents the middle world, where man lives. The *obo* thus is understood as the locality where contact between the three different worlds is established. Besides representing the three-dimensional world the *obo* also serves as the abode of the territorial deity which in Mongolia often is a mountain deity or the mountain itself. The *obo* could be read as a visual map in space, on the one hand marking the borders of the territory of the clan-unit, on the other hand denoting the actual presence of the territorial deity of the clan that simultaneously incorporated the ancestral deity, the ancestor of the clan.

In their project of mapping the territories of Inner and Outer Mongolia the Manchus used the symbol of the *obo*, but for their own purposes changed its meaning to a simple border device. In the eyes of the Manchus the maps prepared for administrative purposes also served as a reminder of the Mongolian nobility to their submission under Manchu dominion. The Mongols, besides bending to Qing administrative prescriptions, used cartography as a visual means to confirm their own concepts of space which were dependent on their traditional world-view.

43 Mong. *oboy-a*.

44 HEISSIG 1944:130.

## The role of Indo-Tibetan and Chinese astrology in Mongol map making

I already mentioned in passing the importance of the Indo-Tibetan and Chinese astrological systems for Mongol map making. A traditional mode of delineating space in Mongolian societies is the system of the 24 directions, *qorin dörben jüg-ün qubiyari*. Translated literally “scales of the 24 directions”, it provides the ground plan on which the majority of Mongol maps are based. The term refers to the twenty-four directions of Mongolian cartography determined by the animal signs of the Mongolian calendary system of the cycle of twelve zodiac signs.

The Mongols adopted their calendary system from the Tibetans as well as from the Chinese.<sup>45</sup> The astronomical system of the Chinese was transmitted to China from India via the Silk Road. When Buddhism reached its peak during the Tang dynasty, Indian *Pandits* not only taught Buddhism, but also astronomy and astrology in China. A Chinese disciple of the famous Buddhist scholar Amoghavajra wrote in 764 C.E.:

Those who wish to know the positions of the five planets adopt Indian calendrical methods. One can thus predict what Hsiu (heavenly mansion) a planet will be traversing. So we have the three clans of Indian calender experts. Chiayeh (Kasyapa), Chhuthan (Gautama), and Chumolo (Kumara), all of whom held offices in the Bureau of Astronomy.<sup>46</sup>

The last of the above mentioned Indian astronomers, Kumara, was closely associated with the Buddhist monk I-xing (682–727), the most famous of all Tang astronomers and mathematicians.

In order to prepare a map the Mongols took as the basis for the calculation of the directions the 24 directional points,<sup>47</sup> combining the system of the 12 zodiac signs with the 8 colours and the 4 Chinese divination charts called *pa kua*. The four cardinal directions (dörben jüg) of Mongolian cartography are represented by the following four animal signs: 1. quluyana (rat) = north; 2. taulai (hare) = east; 3. morin (horse) = south; 4. takiy-a (hen) = west.

45 According to Tibetan tradition astronomy and astrology originated in China, from whence the Tibetans introduced it. Tibetan astronomy and astrology, however, was probably directly influenced from India, too.

46 Cited after CH'EN 1964:481.

47 HEISSIG 1978:XII–XIII.



The four directions are then combined with the eight colours (*naiman öngge*), which correspond roughly to the nine astrological diagrams<sup>48</sup> in Chinese and Tibetan astrology: 1. *qara* (black); 2. *qaraycin* (blackish); 3. *köke* (blue); 4. *kökegcin* (blueish); 5. *ulayan* (red); 6. *ulaycin* (reddish); 7. *cayan* (white); 8. *cayaycin* (whitish).

To every *sme-ba* a colour relating to one of the five elements (metal, water, wood, earth and fire), is attributed. The colours are either male (black etc.) or female (blackish etc.). In Tibetan astrological charts, however, the colours attributed to the 12 animal signs<sup>49</sup> differ from those chosen in the Mongolian system.

The eight corners (*naiman öncüg*) are represented by the remaining eight animal signs: 1. *üker* (cattle); 2. *bars* (tiger); 3. *luu* (dragon); 4. *moyai* (snake); 5. *qoni* (sheep); 6. *becin* (monkey); 7. *noyai* (dog); 8. *yaqai* (pig).

The four points in-between (*dörben jöbkis*) are: 1. *joysolta*; 2. *orolya*; 3. *eyebergü*; 4. *möngge*. These last four points are directly adapted from the Chinese divination system (Mong. *külil*, Chinese *pa kua*).

The 24 directional points are then combined in the way as illustrated in figure 1.

This system was the underlying principle of the majority of maps the Mongols had to deliver every few years to the *Li-fan yuan*.<sup>50</sup> It was still used in Mongolian cartography of the late 19<sup>th</sup>, beginning of the 20<sup>th</sup> century.<sup>51</sup> Moreover many Mongol maps illustrate that the system of the 24 directions was refined by dividing in half the space-in-between (Mong. *jabsar*) of the 24 directions, thus getting all in all 48 fixed directional points. On the maps as well as in the actual landscape the 48 directions are represented by 48 border-*obo*. The map of the banner of Tseringgombo of the Setsen Khan ayimay,<sup>52</sup> dating from the year 1907, shows all in all 32 border-*obo* which were ascertained by this system. The

48 Tibetan *sme-ba-dgu*. Compare CORNU 1999:123–125.

49 Compare the colours and the directions in the table given by CORNU 1999:125 (Tableau 16) and 126.

50 See the illustration in HEISSIG 1978: ill. 2., XIII, from the collection of the Mongolian Archives at Ulanbator.

51 See for example the map of the Mayidarwa banner of the Tüsiyetü Khan ayimay at the beginning of the 20th century, in HEISSIG 1978, No. 721.

52 No. 747 in HEISSIG 1978.

map of the banner of the Secen qan Demcuydorji<sup>53</sup>, executed in 1910, differentiates the directional points even further and shows 60 border-*obos*, a refinement which is often encountered in Mongol maps of the early 20<sup>th</sup> century (see figure 2).

The system of the 24 directions is even used in the maps depicting the postal stations between the urban centres of the semi-nomadic Mongols, as can be demonstrated by the map of the 11 post relais stations north of *Küriye*,<sup>54</sup> drawn in 1907.

## Chinese influence

Traditional Mongol maps are usually drawn towards the north. The mountains are depicted in a very realistic way, according to their actual appearance, as illustrated by the picture map of the banner of the Secen qan Lubsangcoyidubaywangpeljeyidasicerin from the year 1910 (see figure 3).<sup>55</sup> In the text of the map even the height of the mountains is specified. Chinese influence becomes obvious in Mongol maps when they are drawn towards a centre, and the mountains are presented in a more schematic profile. Compare for example the picture map of the left banner of the Qaracin Mongols, drawn in 1907 (see figure 4),<sup>56</sup> in which the landscape is arranged around the residence of the banner prince in the middle of the map, to the Chinese map of the county seat of Luoyang drawn during the later Jiaqing reign (1810–1820). In this picture map the various cultural and historic sights gather around the county seat of Luoyang, as in the map of the county seat of Dengfeng also dating from the Jiaqing reign. The maps showing the upper and lower reaches of the Jinshajiang river, drawn in 1741 in the Qianlong era for the same imperial purpose as Mongol maps were ordered to be drawn, depict the mountains in the style of Chinese landscape painting. A very similar way of representing a mountainous landscape can be seen in two Mongol picture maps, the map of the middle banner of the Qaracin, and the map

53 *Qalq-a-yin secen qan ayimay-un secen qan demcuydorji aysan-u qosiyun-u nutuy-un jiruy* ("map of the pasture land of the banner of the deceased Secen qan Demcuydorji"), no. 746 in HEISSIG 1978.

54 Mong. *küriyen-ü qoyituki arban nigen örtegen-ü jiruy*, in HEISSIG 1978: No. 731. *Küriye* is the old name for Urga, nowadays' Ulanbator.

55 No. 760 in HEISSIG 1978.

56 No. 794 in HEISSIG 1978.



of the right banner of the Ongniyud.<sup>57</sup> The first map (dating from 1907) is beautifully executed in different colours (black, blue, green and red). It shows the mountains, rivers and the borders of the Qaracin banner, as well as the residence of the banner prince and the main monastery, both arranged nearly in the middle of the map. The second coloured picture map shows the pasture lands of the Ongniyud, interlaced by the Louq-a river (*louq-a-yin γoul*) and its many tributary streams. Again in the middle of the map we find the residence of the banner prince. Besides clearly revealing the Chinese influence on Mongol map making, in the execution of the map as well as in the pictorial presentation of the landscape, these two maps describe the social and religious hierarchy as well as the economic structure of Mongolian society at the turn of the 20<sup>th</sup> century. The land, in earlier times the property of the clan (mong. *oboy*), has become the sole property of the local ruler, the banner prince, whose hegemony is established in the spatial representation of the map: his residence, more prominent than the rest of the depicted buildings, is at the center. Just next to the secular power the monastery as the symbol of religious power is presented.

### Tibeto-Chinese astrology, European technique and Qing political pressure: The transformation of politics into the visual representation of a world-view

From the evidence presented here we can draw the conclusion that Mongol maps are a unique blend of Mongolian, Indo-Tibetan, Chinese und European visual codes of representing space. From the total of 116 Mongol maps examined in the process of writing this paper, 70 of them are drawn according to the system of the 24 directions, whereas 46 are drawn in the Chinese technique towards a centre, using elements of the traditional Chinese style of landscape painting. All of them, however, are drawn on a network of squares.

Maps are historical products. They are visual representations of the historicity of space as well as historical expressions of these representations.<sup>58</sup> They tell us about the expansion and the power of empires, about the visions of their rulers und perhaps most of all about the world-view of a people. Maps do not only deal with space inhabited by man but also with spatial relations created

57 Nos. 795 resp. 800 in HEISSIG 1978.

58 Compare SCHLÖGEL 2003:86–87.

by man. Although maps are, as is the case in the mapping of Mongol territory in the Qing era, often the imperial project by the ruler of an empire, the people pressured into making them creatively transform them into a mode of representing their own notion of space and their relationship to it. Therefore maps in more than one way present the visual history of a people and their relationship to the space they inhabit and shape. Cartography is thus a visual historiography, and as in the case of every type of historiography, it does not present neutral descriptions of spaces and borders, but highly ideological ones. Maps are not objective, but dependent on time and place and in themselves historic constructions of reality. These well-known facts about cartography apply to Mongolian cartography as well. Once forced to submit maps in regular intervals to the *Li-fan yuan* the Mongols developed a variety of techniques to represent space, using and transforming Chinese and European as well as Tibetan and indigenous concepts of visualizing space. What is most striking in their maps is at once a product of the colonial enterprise of the Qing and their own perception of the world: the symbol of the border, the *obo*. This indigenous symbol points to the different layers of the Mongol map, adhering to two different ways of “reading” it. The Chinese officials of the *Li-fan yuan* saw the border-*obos* simply as border devices, as “heaps of small stones, sand or soil” which could “easily break down” and therefore had to be controlled yearly.<sup>59</sup> The simple assertion that maps as a visual statement of power divide a given territory into central and marginal zones is proven by the Chinese project of mapping the outer provinces. Maps in the Chinese point of view are at the same time an expression of and a way of establishing power.

For the Mongols, however, the *obos* were much more: They served as a visual representation of their concept of the world and embodied their relationship with territory and space itself. Mongol maps managed to convey a meaning far beyond their political purpose. They do not simply create a likeness, but actively construct an image of the visible world. The study of Mongol maps thus confirms the approach to cartography which has become prevalent in recent cartographic research, namely that maps are “constructions of world images, cultivations of concepts that people create of their world.”<sup>60</sup> They do not only reveal relations of power, but also concepts of spatial relations shaped by cul-

59 Mong. ... *olan jasay qosiyun-lüge* [!] *kijayar neyilegsen yajar-tu bayiyuluysan temdegtü oboya bolbasu cöm biciqan cilayun elesün siroi-bar oboya oboyalaysan ucir-tur kilbar-iyar nuruju unamui*, cited after HEISSIG 1944:130.

60 SCHLÖGEL 2003:148–149.

tural and religious notions. During the two centuries maps became a way of documenting the Qing colonial enterprise, Mongol maps were not only an administrative tool of the Qing empire, but a means of representing a complex world-view deeply embedded in the codes of a visual representation of space.

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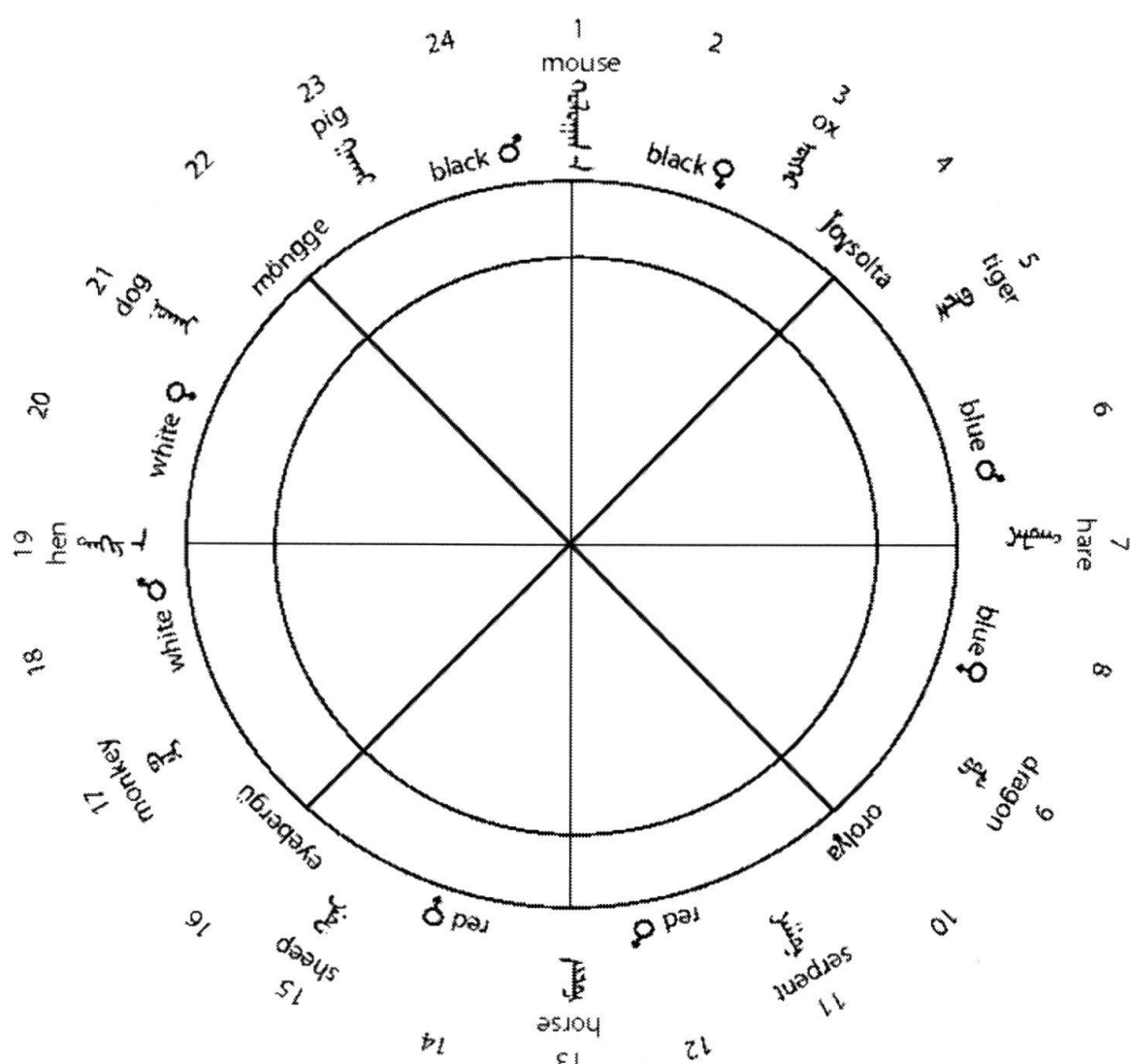


Figure 1: The system of the 24 directions (*qorin dörben jüg-ün qubiyari*)



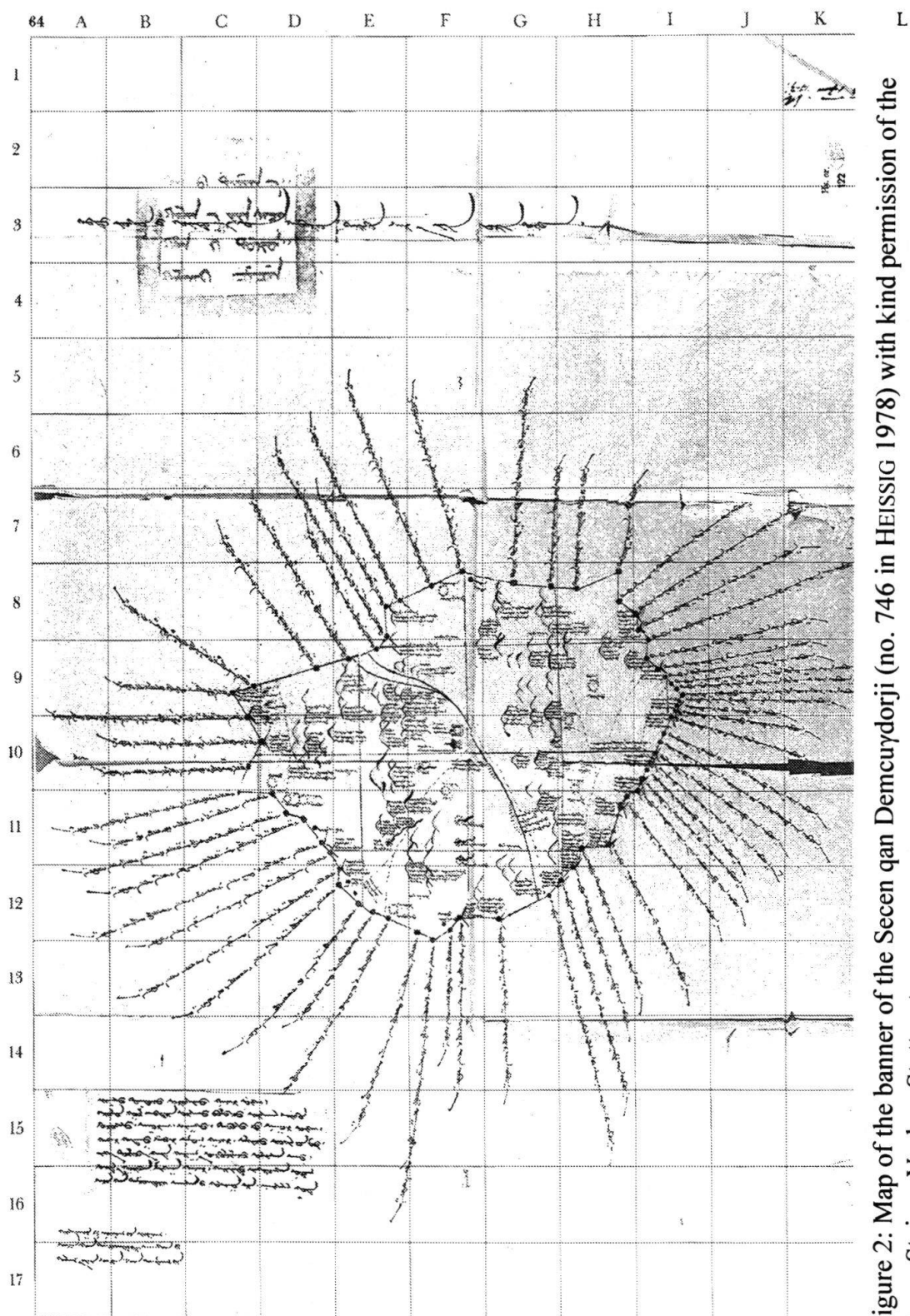


Figure 2: Map of the banner of the Secen qan Demcuydorji (no. 746 in HEISSIG 1978) with kind permission of the Franz Steiner Verlag, Stuttgart

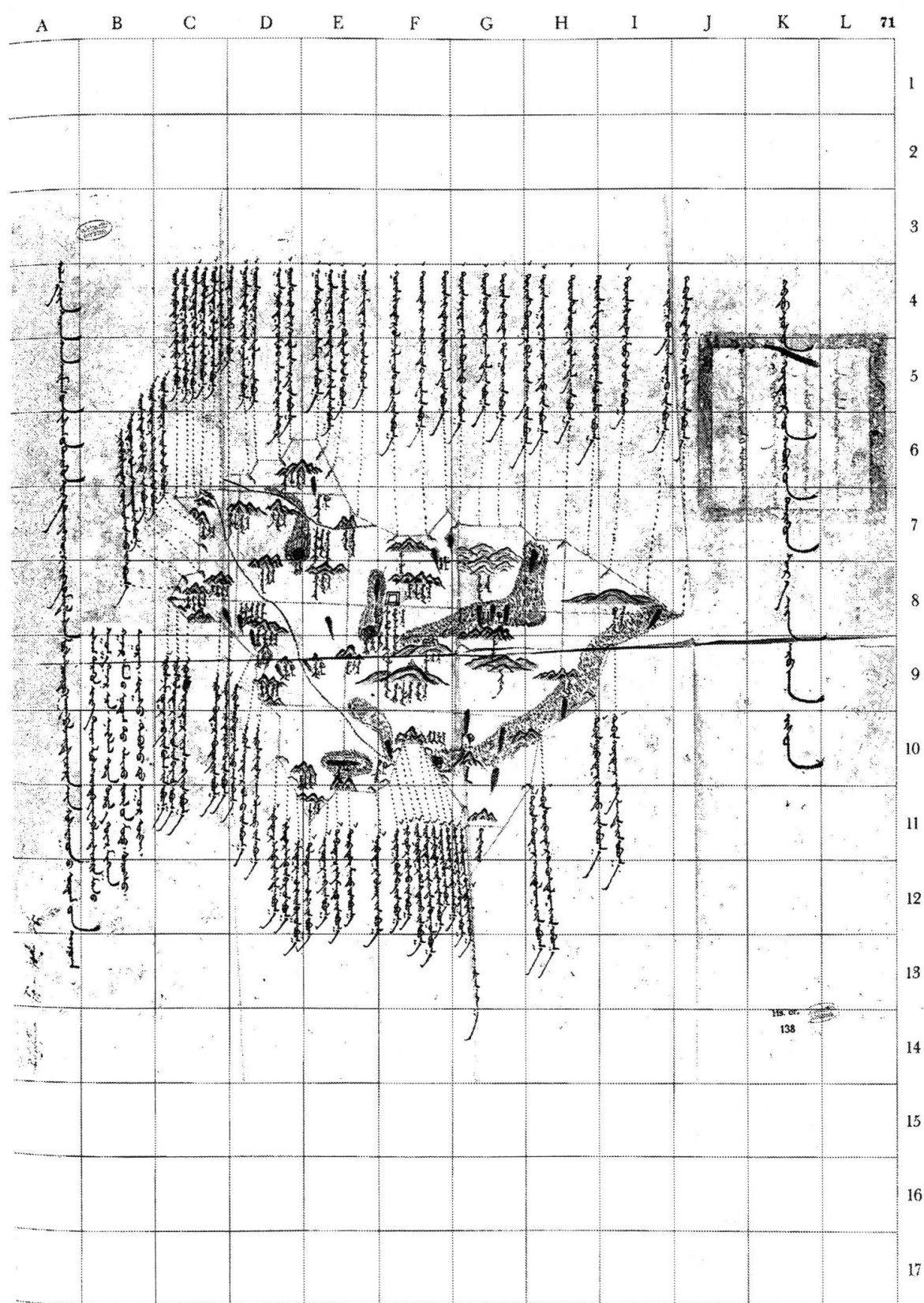


Figure 3: Map of the banner of the Secen qan Lubsangcoyidubaywangpeljeyidasicerin (no. 760 in HEISSIG 1978) with kind permission of the Franz Steiner Verlag, Stuttgart

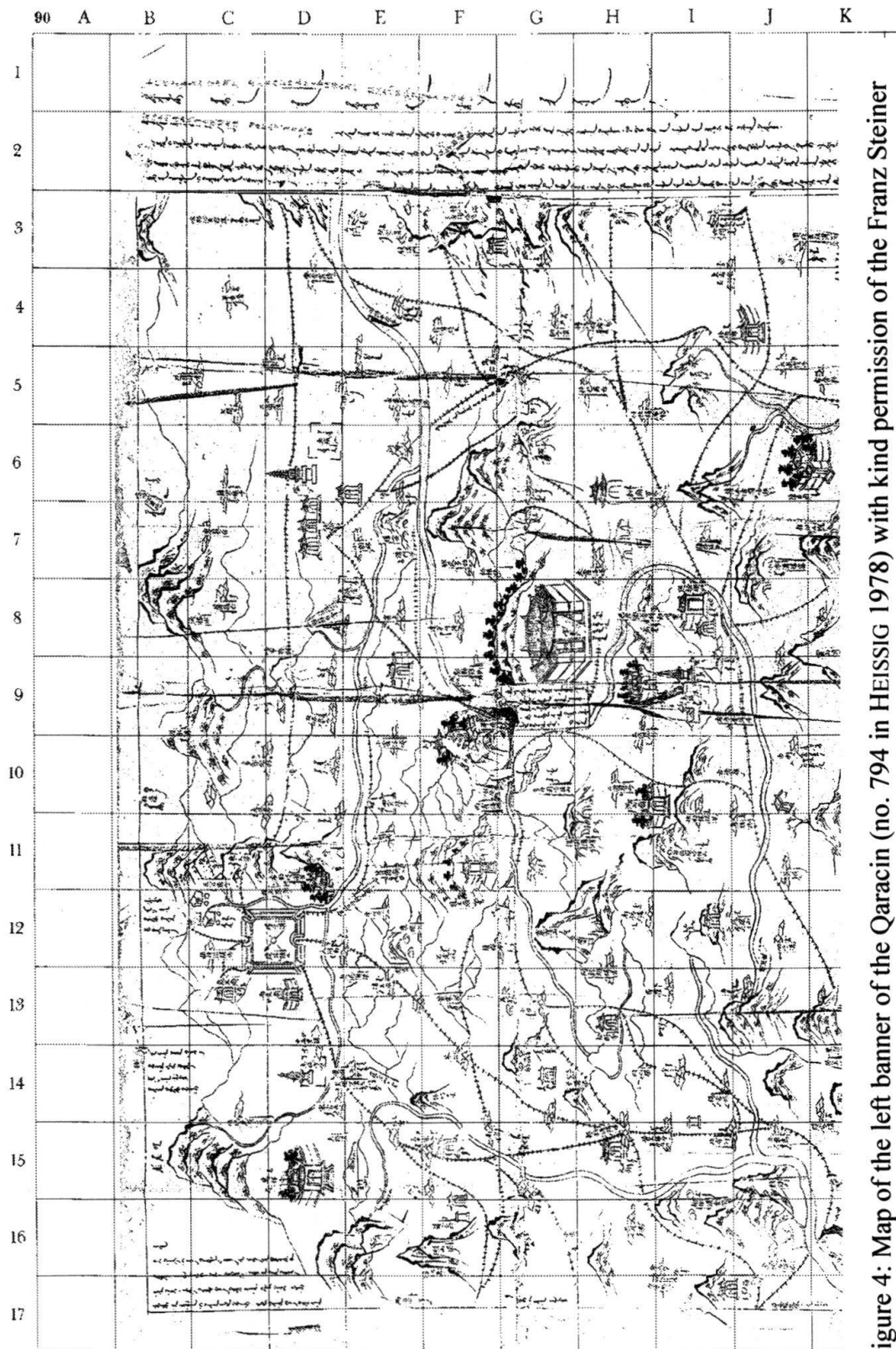


Figure 4: Map of the left banner of the Qaracin (no. 794 in HEISSIG 1978) with kind permission of the Franz Steiner Verlag, Stuttgart

