

Rule and Labour in Tibet: Constructing the Red Palace of the Potala

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Introduction

he dGa' ldan pho brang government came into power in 1642. Just three years later it was decided to erect a new palace on the dMar po ri hill outside Lhasa town. The building was shaped as a fortress and meant for the central administration,¹ and it incorporated the Dalai Lama's personal residence as well as a great assembly hall and the governmental offices. As is well-known, the Potala palace was not only designed as a symbol of power, but also as a visible expression of the great salvation project for Tibet initiated by the Bodhisattva Avalokiteśvara and spelled out in the historical account composed by the Dalai Lama himself during the same time. It seems that the actual construction work for the so-called White Palace took only two years to complete; by 1648, the inner halls of the palace were teeming with artists, hired to decorate the walls with marvellous murals.² The building of the palace must have created a great demand for labour, yet the autobiography of the 5th Dalai Lama is extremely poor in providing details about the building phase: virtually no information is contained in the voluminous text about the actual construction—who were the workers and how labour was organised.

In this regard the White Palace differs sharply from the Red Palace, built forty-five years later on the initiative of *sde srid* Sangs rgyas rgya mtsho as the second great component of the Potala. The regent documented the construction in a comprehensive book—describing not only the numerous accompanying religious ceremonies and listing all the

¹ Karmay (2014: 193).

² Karmay (2014: 216–217).

religious pieces of art contained therein, but also recording many details and aspects of the construction itself. The title of the book is “Register of the reliquary stūpa, the unique ornament of the world, and the temple as its ‘support’; a boat for crossing the ocean to the island of liberation, a treasury of blessing”.³

In addition to this extensive written documentation, Sangs rgyas rgya mtsho provided many other details, such as those of the workshops and various crafts depicted on wall paintings inside the palace. The description covers the murals decorating the eastern part of the corridor attached to the great assembly hall on the second floor of the Red Palace. The single scenes illustrating the construction of the Red Palace are embedded in a common landscape. They are numbered and accompanied by brief captions. Although a systematic documentary of these amazingly informative illustrations is still missing, close-ups of selected images were nevertheless reproduced in various publications of the People’s Republic of China and are currently available for consultation.

Strangely enough, Western scholars have so far only superficially turned to Sangs rgyas rgya mtsho’s monumental book for details on the construction of the Red Palace. To my knowledge, only Anne Chayet and Ian MacCormack refer to it in any extent. While the first mentions it briefly in an article on the Potala,⁴ MacCormack’s recent treatment of the work is more extensive. In his dissertation, in fact, he praises the text for its being “absolutely stuffed with details of all varieties”.⁵ However, due to his line of enquiry, he inevitably restricts his scrutiny to the

³ *Mchod sdong 'dzam gling rgyan gcig rten gtsug lag khang dang bcas pa'i dkar chag thar gling rgya mtshor bgrod pa'i gru rdzings byin rlabs kyi bang mdzod.* According to the colophon, a first complete version of the book was written down by four different scribes in 1697. The woodblocks for the printing were carved in 1701. Today, several copies of the work are known. For details see MacCormack (2018: 260 note 1). In this article, I refer to the edition published in Lhasa in 1990, hereafter abridged as *Mchod sdong*. A comparison of the relevant passages in the edition of 2016 published by Ser gtsug nang bstan dpe rnying 'tshol bsdu phyogs sgrig khang in Lhasa as well as those in the reproductions of the block prints from the Zhol par khang preserved in the collection of Tsepon W. D. Shakabpa and published by T. Tsepal Taikhang 1973 in New Delhi, both available through TBRC, the Buddhist Digital Resource Center (W1KG25316 and W8223), did not reveal any significant differences.

⁴ Chayet (2003: 49–50).

⁵ MacCormack (2018: 264).

theological and cosmological guiding principles for constructing the palace and the layout and decoration of its many rooms and chapels. Therefore, the enormous labour and the organisation necessary to build such an impressive palace in a short period of time still needs to be analysed, and the present paper is intended to be the first step in this direction.

The construction of the Red Palace

The Red Palace was designed to fulfil a function totally different from the one of the White Palace, as the main purpose of the building was to enshrine the corpse of the deceased 5th Dalai Lama. To that end, a big hall was erected with a chapel on its western side containing the huge golden stūpa that was the tomb of the great hierarch.

From the beginning Sangs rgyas rgya mtsho had the intention to complete the entire construction within three years. To adhere to such an ambitious schedule, great numbers of workers had to be recruited. Most of the labour force was provided as *'u lag*, that is to say, as a kind of tax obligation. *'U lag* is the term used by the same Sangs rgyas rgya mtsho to classify the work performed by the subjects of gTsang and dBus, the two provinces of Central Tibet.⁶

Originally, during the Yuan dynasty, the term *'u lag* was only applied to obligations related to the transport services and postal relay stations, in particular as provisions of horses, pack animals, and people for transport as well as the necessary food, fodder, and fuel for the road.⁷ Under the dGa' ldan pho brang the term comprised all labour duties which had to be performed for the government, such as construction work, restoration of dams, cutting of wood, transport of wood or grain, arrangement of horses to be supplied as corvée duty, availability of resting places and overnight lodgings for travelling chiefs and Tibetan troops, welcoming and seeing off of government post-riders, etc.

In addition to the ordinary workers and their headmen, supervisors had also to be appointed and special craftsmen had to be engaged—

⁶ *Mchod sdong*: 237.

⁷ In this meaning, the term appears in a whole series of Mongolian- and Tibetan-speaking documents issued for Tibetan recipients of the Yuan period (Mong. *ulaya*). See Everding (2006: part 1, documents nos. I–III, V, VIII, X; part 2, documents nos. XII, XIII, XVI, XVIII, XXII–XXIV).

among them foreign specialists from Nepal, Mongolia, and China. Various kinds of craft had to be coordinated, specialised workshops had to be erected, building materials had to be transported from different places, workers, foremen and craftsmen had all to be supplied with food and lodgings, medical care had to be provided and systems of policing and control be established for security reasons. Furthermore, it was considered important for the success of the project that monks from various monasteries regularly performed rituals to appease the numerous spirits who might have felt disturbed by the construction.

Another problem was the chronic lack of labour force in Tibet: any worker recruited for performing corvée labour on the *dMar po ri* meant a missing man in their home estates. To bypass the problem, the regent divided the labour amongst workers hailing from different districts. Moreover, he decided that the workers would be replaced after their first year.

The foundation was laid on the 20th day of the 2nd Tibetan month of the Iron Horse Year, corresponding to March 29 or 30, 1690.⁸ The actual construction works started on the 11th day of the 1st Tibetan month of the Iron Sheep Year, corresponding to February 9, 1691. The dates were set in accordance with Sangs rgyas rgya mtsho's careful astrological calculations. For the first year of work, 5,507 corvée workers were recruited from different governmental, aristocratic, and monastic estates, most of them located in *gTsang*.⁹ For the second year, another 5,737 workers were recruited, this time from other estates, belonging to the areas of *dBus* including Southern Tibet.¹⁰ Sangs rgyas rgya mtsho does not mention an exchange of workers for the third year. As illustrated on the wall paintings of the Potala, corvée labourers were mainly required to work in the quarries and carry red clay, stones, and wood to the construction site. Wherever possible, boats were used for transport. While most of the building materials were found in the area around Lhasa, the timber originated mainly from the forests in Southeast Tibet.¹¹

⁸ *Mchod sdong*: 232, 262. The exact day is described in a very elaborated way in *Mchod sdong*: 232. In brief, it was the 20th day of the 2nd Hor month of the Iron Horse Year: since that month has a second 20th day added, the date corresponds to either March 29 or 30.

⁹ *Mchod sdong*: 237–238.

¹⁰ *Mchod sdong*: 242.

¹¹ *Mchod sdong*: 308.



Fig. 1 — *sdig rag tu bsangs lngan {brngan} sogs sa rdo slong ba'i thab {thabs} dang/sdo {rdo} gsog 'dren gngang ba/* “[a] The way that earth and stones were ‘requested’ in *sDig rag* [through] smoke offerings and so on; and [b] collecting and transporting stones” (Dom po ba Thub bstan rgyal mtshan et al., 1996: 109).



Fig. 2 — *lha lung du bsangs brngan/ klu gtor dang bcas rdo gsog 'dren gngang ba/* “Collecting and transporting stones in *lHa lung* together with smoke offerings and *gtor ma* offerings for the *klu* [spirits]” (Dom po ba Thub bstan rgyal mtshan et al., 1996: 113).



Fig. 3 — *skam g.yung du skyid chur ko bal {ba la} rdo 'dren 'jug pa gngang ba/ "Having stones transported on coracles on the sKyi chu in sKam g.yung"* (Dom po ba Thub bstan rgyal mtshan et al., 1996: 111).

More than 10,000 corvée labourers were recruited for the construction of the Red Palace—nothing more than a blurred mass of anonymous workers lacking names and identities. Different is the case for the craftsmen and artisans summoned to the site, since Sang rgyas rgya mtsho took great care not only to list their specialities but to record their individual names as well. The list comprises more than 1,680 names.¹² Among the many names are common ones like bSod nams bkra shis or Blo bzang, rather prestigious ones like rGyal rtse jo bo dPal 'byor and on the contrary really degrading ones like sTag rtse Khyi skyag. It is hard to imagine that adults' names such as “Dog shit” (Khyi skyag), “Pig shit” (Phag skyag), “Bad dog” (Khyi lod), “Goat” (Tshe tshe), “Piglet” (Phag phrug) or “Madman” (sMyon pa) did not carry specific social connotations to Tibetan ears. Nevertheless, all these names were simply placed next to each other. It must be also taken into account that not all of the craftsmen listed were constantly present on the construction site. Some stayed for long periods, others for shorter ones.

From the list it appears that two craftsmen were given a prominent role: 'Bog gong Mon pa Blo gros rgyal mtshan, supervisor of all

¹² *Mchod sdong*: 269–283.

craftsmen, boatmen, and construction workers, and gNas gsar pa 'Jam dbyangs dbang po, foreman of all carpenters. Before the actual construction work began, those two men had drawn the exact construction plan based on the original draft made by the regent himself.¹³

The whole process was preceded by the swearing of an oath (*dam tshig*) by both the sponsors (*yon bdag*) and the craftsmen (*bzo bo*), and the taking of their seals by the supervisors. Workshops for the various crafts were then set up: the smiths for copper, cast-iron, and iron, as well as the workshop of the metal engravers, were all set up at the printing house and the *mdzo mo* corral (*mdzo mo ra ba*).



Fig. 4 — *par khang du bal po brdungs 'phrul { 'phul} zangs lcags mgar ba khro lug {lugs} sogs kyi bzo grwa 'dzugs pa gnang ba/ "Establishing a workshop for Nepalese metal workers, copper- and iron-smiths, foundry workers, and so on at the printing house." (Dom po ba Thub bstan rgyal mtshan et al., 1996: 110)*

¹³ *Mchod sdong*: 235, 287.

The carpenters were located at the dGa' ldan khang gsar on the north side of Lhasa, the workshop of the tailors was at the Bla brang bzo khang, while the experts who pulverised the pigments for making paints had their own workshop at the rGya ri khang gsar.



Fig. 5 — dga' ldan khang sar {gsar} du shing bzo'i las grwa 'dzugs pa gngang ba "Establishing a workshop for carpenters at the dGa' ldan khang gsar" ('Jam dbyangs, Wang Mingxing et al., 2000: 271).

In addition, a camp for the headmen and the numerous corvée workers was set up in a park downstream (*chu smad gling kha*).¹⁴

About 40 supervisors managed the common workers and craftsmen: 'Bog gong Mon pa Blo gros rgyal mtshan was a general supervisor (*spyi khyab do dam*) in charge of all craftsmen and corvée labourers, a function he shared with gZhis ka snying snying. The latter is presented as a general supervisor and as chief (*'go pa*) of the craftsmen from China and all the various metalworkers. Both men seem to have held the same rank on the construction site, as they received exactly the same type and number of gifts upon completion of the work. Others were appointed to

¹⁴ *Mchod sdong*: 238–239, 521.

oversee more specific tasks, like the distribution of tea and soup to the corvée workers, the administration of medical care, the carpentry, the masonry, the iron smithy, the running of the various quarries around Lhasa or the supervision of the boatmen. In addition to the supervisors, there were 39 representatives of a total of 34 private and district estates which had provided serfs as labourers. Some of the estates—rGya ri, sTag rtse, bKra shis lhun po, and sNa rtse—had two or three representatives on site, although their presence on site was not continuous. About 25 living quarters had been reserved to accommodate them in turns.¹⁵

Interestingly, Sangs rgyas rgya mtsho begins the list of the actual craftsmen with a group of eight Chinese men, supervised by an additional person functioning as their chief. As explicitly mentioned, they were sent to Tibet by the emperor of China, but no mention is made of their specific skills. Their leader figures prominently in the section listing the recipients of special farewell gifts, as he was the third to be granted such privilege after the two general supervisors.¹⁶

Next, Sangs rgyas rgya mtsho mentions two leaders of a group of Nepalese craftsmen followed by the names of 122 Nepalese craftsmen, who were experts in forging work (*brdung pa*), inlaying with gems (*phra pa*), and a third craft known as *'phul pa*.¹⁷ The leaders or chiefs (*'go pa*) were not identical to the actual foremen (*dbu chen, dbu chung*), who are listed within the group of craftsmen.¹⁸

Hereafter, all the other craftsmen are listed in accordance with their specific craft, each group starting with the names of the greater and the lesser foremen. The following are mentioned in order: 240 icon painters (163 from the so called sMan school and 77 from the mKhyen school); 34 sculptors who made the clay statues; 46 coppersmiths; 29 foundry workers; three goldsmiths; two persons who made the lotus petals functioning as pedestals for the statues; 39 Nepalese workers who polished iron; 215 carpenters; eight woodcarvers; 376 stone masons; 22 plasterers; 85 boatmen and oarsmen for transporting stones and wood on the river; 129 workers who engraved reliefs on gold and silver vessels; 78

¹⁵ *Mchod sdong*: 268–269, 287.

¹⁶ *Mchod sdong*: 269, 287.

¹⁷ On the murals the term is written as *'phrul* (see below: figure 4). It seems to denominate a particular type of metalworking. However, it is not clear to me what kind of metalworking is exactly described by this term and how it differs from the activity termed *rdung*, “beating” the metal.

¹⁸ *Mchod sdong*: 269–270, 287.

iron smiths; 143 tailors and needlers including not only the usual greater and lesser foremen but also three general supervisors; 21 Nepalese tailors; nine spinners; and 38 persons pulverizing pigments. The greatest craft group was the one of the stone masons, followed by the icon painters and the carpenters. Nepalese craftsmen made up the largest group of foreign skilled workers. Altogether 184 people are classified as Nepalese. There were also a few Mongolian craftsmen, but they are not listed as a separate group.

All the supervisors and craftsmen as well as the representatives of the estates present at the construction site received a monthly payment (*zla phogs*) in foods: sheep's carcasses, sheep's heads for making soup, grain, salt, oil and cheese measured in bushels called *khal*¹⁹ and consisting of 20 *bre* which again had six *phul*, and tea and butter measured in a unit of weight which was also called *khal*, but divided into 20 *nyag* or *nya ga* which again comprised four *spor*. The payment differed mainly in accordance with the rank or the responsibility of the individual, but also in partial consideration of the specific craft.

At the top level was the class of the so-called "higher persons" (*che kha*), exemplified by the abovementioned general supervisor 'Bog gong Mon pa Blo gros rgyal mtshan. Every month, those people received six *khal* of barley to be roasted and ground into flour (*rtsam pa*) or to be used for making beer, three *khal* of grain as an equivalent of a piece of meat (*sha gcig gi dod khal gsum*), one sheep's carcass, two sheep's heads, two *bre* of salt, two *bre* of oil, three *nyag* of the so-called T'a tshang tea, four *nyag* of the so-called 'U zi tea, one *khal*, and one *nyag* of butter.

Underneath the *che kha* were the specific supervisors, such as those overseeing the carpenters and masons, as well as the lay officials of the government (*drung 'khor*), and the representatives of the highest strata of the manorial lords, who all formed a common salary bracket. Their payment consisted of seven *khal* of grain for making *rtsam pa* and beer, one sheep's carcass, one sheep's head, one *bre* of salt, one *bre* of oil, three *nyag* of T'a tshang tea and nine *nyag* of butter.

Thereafter followed the representatives of estates of medium size like the sGam po ba estate (in Dwags po in South-East Tibet). Each month, they were given six *khal* of grain, one carcass of a small sheep,

¹⁹ On the dry measure called *khal* see Schwieger, "Lenders and borrowers in Tibetan society," in this volume.

one *bre* of salt, cheese, and oil, as well as tea and butter in the same amount as those in the next higher salary bracket.

The representatives sent by the smaller estates received a monthly payment of five *khal* of grain, half of a small sheep's carcass, one *bre* of salt, cheese and oil, one *nyag* of tea and two and a half *nyag* of butter. Minor supervisors like government clerks received the same, only they were given half a *khal* of grain less.

In general, the craftsmen were paid no less than the supervisors and the representatives of the different estates. The salary of the craftsmen differed whether they were greater or lower foremen or ordinary craftsmen. For some crafts, the ordinary craftsmen were differentiated once more into a higher and a lower salary bracket. Moreover, there are some differences in payment between the different crafts. On average, each month the greater foremen received between eight and ten *khal* of grain, one sheep's carcass, two sheep's heads, one *bre* of salt and oil, and between two *spor* and one *nyag* of tea. The amount of butter varied between 1.25 and five *nyag*. The foremen of the icon painters were the only ones who received two sheep's carcasses a month. However, they received less grain and no sheep's heads, but two and a half *bre* of cheese.

The common craftsmen were given seven *khal* of grain, one sheep's carcass, one sheep's head, one *bre* of salt and oil as well as a varying quantity of tea and butter. The icon painters were again an exception, mainly in that they were given ten *bre* of extra grain instead of one sheep's head.

Among the carpenters, masons, plasterers, blacksmiths, and specialists of relief engraving was also a group of common craftsmen of an inferior standing. They received less grain and meat: five and a half or six *khal* of grain, one half of a sheep's carcass and one—in the case of two crafts, none—sheep's head.

Furthermore, there were two groups of specialists who were paid significantly less: the small group of silver and gold smiths and the large group of boatmen, who were listed as part of the craftsmen as well. Both groups had no inner hierarchy, that is to say, no mention is made to any foremen among them. The silver and gold smiths received a monthly payment of three *khal*, six *bre* and four *phul* of *rtsam pa*, one and a half *khal* of grain, a quarter of a sheep's carcass, one sheep's head, one *bre* salt and oil, one *nyag* tea and two and a half *nyag* of butter. The boatmen received four *khal* of *rtsam pa*, one and a half *khal* of grain,

one half of a sheep's carcass, one *bre* of salt, cheese and oil, one *nyag* of tea, two and a half *nyag* of butter and one *nyag* of liquid fat for greasing the leather of the coracles.

Three times a year the work of the craftsmen was inspected.



Fig. 6 — *lo rer bzo grwar gzigs rtogs dang/zur gsos tshar gsum re ghang ba/ "Thrice a year the workshops were inspected, and additional gifts are granted"* (Dom po ba Thub bstan rgyal mtshan et al., 1996: 112).

This section illustrates another important aspect of the construction work: the way in which the food was brought to the construction site. In the left bottom corner, we see carcasses provided for the craftsmen. There were mostly sheep slaughtered for feeding the craftsmen. The image shows them headless because the heads were distributed separately, mainly for making soup.

In accordance with the evaluation of their work, they received additional bonuses in the form of food and material goods, like animal skins, fabrics, clothes, and frankincense. In his report, Sangs rgyas rgya mtsho does not allocate the expenditure made in this connection to individual recipients but meticulously summarises it for each type of goods, no matter whether the quantities were large or small. To illustrate the way in which he carefully kept his accounts, here are some excerpts from his list:²⁰

²⁰ *Mchod sdong*: 283–284.

barley: 81,058 *khal*, 12 *bre* (1 *bre* = twentieth part of a bushel), 1 *phul* (1 sixth of a *bre*)

rice: 245 *khal*, 12 *bre*, 2 *phul*

buckwheat: 2 *bre*, 1 *phul*

fine buckwheat flour: 93 *khal*, 19 *bre*, 5 *phul*

buckwheat flour medium: 8,750 *khal*

coarse buckwheat flour: 128,590 *khal*, 7 *bre*, 3 *phul*

flour and water mixed up together as food for horses, mules, and donkeys (*chu ldur*): 607 *khal*, 18 *bre*

salt: 2,760 *khal*, 3 *bre*, 1 *phul*

cheese: 844 *khal*, 3 *bre*, 4 *phul*

oil: 1,366 *khal*, 12 *bre*, 2.5 *phul*

Since the labour of the thousands of simple workers classified as *corvée* labourers (*'u lag mi*) was considered a kind of tax obligation, the text does not mention any "salary" (*phogs*) for them. Only the representatives of their manorial estates to which they belonged received a monthly salary during the periods when they were personally present at the construction site. Nevertheless, basic and simple food for the *corvée* workers was provided and guaranteed by donors. It consisted mainly of tea and soup but also of roasted barley ground into flour and Tibetan beer.²¹

The cost of labour did not include the catering for the numerous guests who appeared on the site every year. *Sangs rgyas rgya mtsho* mentions assemblies of guests from China, Mongolia, and Tibet as well as messengers from all directions. For such guests alone, about 11,000 head of cattle and sheep were slaughtered every year.²²

As documented on the murals, the work on the construction site was not without dangers, and fatal work accidents did occur. Apparently, masons and plasterers operated without a scaffold.

²¹ *Mchod sdong*: 878–898.

²² *Mchod sdong*: 831–832.



Fig. 7 — (first scene) *byi las phyin shul gyi rdo 'gril bas rdo bzo ba dang/ gyang ro 'i ldeb zhis pas 'ul lag gron pa sogs byad ltas kyi mtshan ma byung ba/* “There occurred signs of black magic, for example that of a mason [whose life] went to waste through rolling stones due to a cat that had run there previously, and that of a corvée labourer [whose life] went to waste through a broken piece of the enclosing wall [of the flat roof].”

(second scene) *gyang ro rkyen med du log pas 'ul lag gron pa/* “A corvée labourer was ‘wasted’ because a stone rubble of the enclosing wall [of the flat roof] fell down without reason” (Phun tshogs tshe brtan et al., 2000: 127).

The construction works lasted until the 20th day of the 4th Tibetan month of the Water Bird Year (May 24, 1693) inclusive. On that day, a stele, known as *Kri 'i rdo ring chung ba*, was erected at the bottom of the large staircase leading to the main entrance of the Potala. The stele bears no inscription.²³

²³ *Mchod sdong*: 245.



Fig. 8 — *kri'i rdo ring chung ba tshal sde pa grags pas do dam mdzad pas skyid chur shan gyis 'dren pa/*
 “The transport of the smaller Kri stone stele with a small boat on the sKyid chu, supervised by Tshal sde
 pa Grags pa” (Dom po ba Thub bstan rgyal mishan et al., 1996: 114).

The next day a great celebration was held and the craftsmen (*bzo rigs*) together with the supervisors (*do dam*) received their final rewards.²⁴ The actual construction work was completed within less than two years and four months.

What was the amount of the actual wages and labour costs and how were they calculated?

The main unit for calculating the various expenditures was the weight unit for silver called *dngul srang*, consisting of ten *zho*, which again comprised ten *skar* or *skar ma*.²⁵ By using this unit of account, Sangs rgyas rgya mtsho makes a precise calculation:

In each year, in terms of [actual] working time, nine months and fifteen days passed. If one stretches this to the number of days of one single available man, it would be 4,971,540 days. If you then calculate one *dngul srang* every 35 days, altogether 142,044 *dngul srang* would be arranged in line, together with 1,395 *dngul srang*, 5 *zho*, and 2 *skar* as costs for the ceremonial scarfs (*kha btags*).²⁶

If one assumes that there were a maximum of 110 working days in the third year until completion of the work (presumably there were fewer days because of the New Year celebrations), and if one also assumes that an average of slightly more than 7,300 people were on the construction site in one function or another, the calculation seems plausible.

The account includes all labour costs arising from the regular remuneration and supply of all corvée workers, craftsmen, and officials. Sangs rgyas rgya mtsho gives the share of wages and additional costs for supervisors, government officials (*drung 'khor*), clerks (*nang gzan*), bodyguards (*gzim chung ba*), representatives of the aristocratic,

²⁴ *Mchod sdong*: 245–246, 284–285.

²⁵ See note 19 in Schwieger (this volume), “Lenders and borrowers in Tibetan society”.

²⁶ *lo so sor las rgyun zla ba dgu zhag bco lnga song ba lag yod mi gcig gi nyin grangs su brkyang bar sa ya bzhi dgu 'bum bdun khri chig stong lnga brgya bzhi bcu rnam la nyin sum cu so lnga rer dngul srang re brtsis khyon dngul srang chig 'bum bzhi khri nyis stong zhe bzhi dang kha btags kyi ri (!) gong dngul srang stong dang sum brgya go lnga zho lnga skar do rnam bstar* (*Mchod sdong*: 295).

monastic and district estates (*sger pa dang chos sde khag rdzong sdod bcas pa'i ngo tshab*), as well as the different craftsmen, at 40,118 *dngul srang*, 7 *zho* and 2.5 *skar*. The additional costs include the separate rewards, which were given three times a year on the basis of inspections, and some other expenditures considered indispensable, like offerings (*gtor ma*) to the *klu*, the underground living spirits that could be disturbed by the building activities, or provisions given to travellers, possibly craftsmen returning to their home area.²⁷

Not included are the material goods given as reward after the completion of the construction. A first list of such goods distributed to supervisors, managers and craftsmen was classified as normal or regular wages (*gla thob 'char can*) and calculated according to the length of time each individual stayed on site. It totalled 15,075 *dngul srang*, 9 *zho* and 8 *skar*.²⁸ While it is not clear from this first list what kind of goods were given to whom in detail, a second list provides not only a description of the goods given as an additional reward but also to their specific recipients, ordered according to their respective rank. The second series of goods is in fact presented as an unprecedented increase in reward and it had a total value of 27,337 *dngul srang*, 5 *zho*, and 5 *skar*.²⁹ It is not surprising to notice that the murals of the Red Palace accordingly show two different scenes of distributions of final rewards to the craftsmen.³⁰

Taken together, items worth 42,413.53 *dngul srang* were presented at the end. Thus, after the completion of the construction, additional benefits were paid, which corresponded approximately to the total of the monthly salaries.

The sum of the expenses for all the people who worked in one way or another on the construction site—142,044 *dngul srang* for food, 1,395.52 *dngul srang* for the ceremonial scarfs, and 42,413.53 *dngul*

²⁷ *Mchod sdong*: 513.

²⁸ *Mchod sdong*: 285–286.

²⁹ *Mchod sdong*: 287–295.

³⁰ Unfortunately, I could not find any illustrations of these scenes with readable captions. The spatial arrangement of both scenes in relation to each other can be seen in Dom po ba Thub bstan rgyal mtshan *et al.* (1996: 128–129). The authors' claim that the scenes depict some annual rewards contradicts on the one hand the explanations in Phun tshogs tshe brtan *et al.* (2000: 125–126), and on the other hand the fact that such an event had already been portrayed in another section of the murals (see Fig. 6).

srang for final rewards—tallies with the total amount reported by Sangs rgyas rgya mtsho: 185,853.05 *ngul srang*.³¹



Fig. 9 — Distribution of rewards to the craftsmen (Dom po ba Thub bstan rgyal mtshan et al., 1996: 126).

³¹ *Mchod sdong*: 513.



Fig. 10 — Distribution of rewards to the craftsmen (Dom po ba Thub bstan rgyal mtshan et al., 1996: 125).

Conclusion

Calculating the costs of labour at a mere 185,853.05 *ngul srang* seems to contradict the much higher estimates advanced by contemporary Tibetan scholars. To my knowledge, there are at least three modern Tibetan-language publications that report separate expenses incurred during the construction as well as a total sum of the works. All three do this by referring to Sangs rgyas rgya mtsho's *Mchod sdong*.

The first source is a booklet titled *Pho brang po ta la'i lo rgyus phyogs bsgrigs* ("Anthology on the History of the Potala Palace") and compiled by the Management Committee of Cultural Relics of the Tibetan Autonomous Region. It contains the following statement:

If one adds up the salaries of the leaders of the construction work, the workers, and the craftsmen, it was 1,694,836 *ngul srang*. For the various articles inside the palace, for example the representations of [the Buddha's] body, speech and mind [i.e. statues, scriptures and stūpas] with the exception of the golden stūpa, the unique ornament of the

world, the expenses were 370,191 *dngul srang*. The expenses for consecration were 69,111 *dngul srang*. These three different expenses add up to 2,134,138 *dngul srang*.³²

In addition, the complete expenses for producing the giant golden stūpa inside the palace are quantified at 1,041,128 *dngul srang*.³³

Dung dkar *rin po che* referred twice to the costs of the Red Palace. In his dictionary he states:

In the 2nd month of the Iron Horse Year of the twelfth sixty years cycle (1690), the construction of the building for the golden stūpa [to keep the remains] of the 5th Dalai Lama was started. In the 4th month of the Water Bird Year (1693) the works on the outer [walls] were completed. In total, 2,134,136 (sic!) *srang* of Chinese silver were spent.³⁴

Dung dkar *rin po che* has dealt with the costs in more detail in an article about the Potala contained in his collected works:

The expenses for the outer walls and the salary for the craftsmen and the managerial staff were 1,694,836 Tibetan *dngul srang* of the time. With the exception of the golden stūpa of the 5th Dalai Lama, the unique ornament of the world, the expenses for the representations of [the Buddha's] body—for example 246 scroll paintings with gold colour, 65 colourful scroll paintings on the biography of the 5th Dalai Lama, and 46 colourful scroll paintings on his secret biography—together with 615 large volumes of excellent religious discourses written with golden

³² *ar po 'i 'go byed pa dang/ las mi/ bzo pa bcas kyi gla phogs bsdoms na dngul srang sa ya gcig dang drug 'bum dgu khri bzhi stong brgyad brgya so drug dang/ gser gdung 'dzam gling rgyan gcig phud pa 'i sku gsung thugs rten sogs pho brang nang gi dngos rigs khag la 'gro song dngul srang sum 'bum bdun khri stong med chig brgya go gcig rab gnas 'gro song dngul srang khri dgu stong chig brgya bcu gcig gong gi 'gro song khag gsum yongs bsdom dngul srang sa ya gnyis dang chig 'bum sum khri bzhi stong chig brgya so brgyad phyin/ (Bod rang skyong ljongs rig dngos do dam u yon lhan khang [1987] 2002: 24).*

³³ Bod rang skyong ljongs rig dngos do dam u yon lhan khang ([1987] 2002: 24). As we will see in the excerpt below this number differs slightly from the corresponding one mentioned by Dung dkar *rin po che* and by Sangs rgyas rgya mtsho himself.

³⁴ *rab byung bcu gnyis pa 'i lcag rta (1690) lo 'i zla 2 par t'a la 'i bla ma sku phreng lnga pa 'i gser gdung khang bzhengs 'go tshugs te chu bya (1693) lo 'i zla 4 par phyi ngos kyi las grwa mjug bsgril zhing/ khyon bsdoms 'gro gron rgya dngul srang 2134136 song/ (Dung dkar 2002: 1334).*

ink—for example the translated words [of the Buddha] written in gold, the translated treatises [containing the commentaries on the Buddha's words], [works on] medicine and astrology, Bon teachings, and the collected works of the lord Tsong kha pa, the teacher and his disciples—were 370,191 Tibetan *dngul srang* of the time. Regarding the expenses for consecration, there were 69,111 Tibetan *dngul srang*. When you add up these three expenses, it was 2,134,138 Tibetan *dngul srang*.³⁵

In addition, Dung dkar *rin po che* also gives the entire cost for building the golden stūpa at 1,041,828 *dngul srang*.³⁶

If we try to trace these figures in Sangs rgyas rgya mtsho's book, we indeed find the sums of 1,694,836 *dngul srang*, 370,191 *dngul srang* and 69,111 *dngul srang*, but Sangs rgyas rgya mtsho nowhere adds them to the sum of 2,134,138 *dngul srang*.³⁷ Just by looking only at Sangs rgyas rgya mtsho's subtotals of the largest amounts (which themselves consist of various subtotals of smaller quantities), one will find that the sums mentioned are not to be added up, but that the two smaller sums are included in the larger one, that indeed includes all the expenses for the Red Palace. Therefore, Sangs rgyas rgya mtsho mentions the larger sum only at the very end of the seventh chapter which lists every expense down to the last detail.

The first of the main subtotals mentioned by him is 1,255,533.5725 *dngul srang*.³⁸ This sum comprises the expenses for the religious

³⁵ *phyi'i rtsig pa dang bzo pa lag rtsal pa 'go byed mi sna bcas kyi gla phogs 'gro song skabs de'i bod dngul srang sa ya gcig dang drug 'bum dgu khri bzhi stong brgyad brgya sum cu so drug/ t'a la'i bla ma sku phreng lnga pa'i gser gdung 'dzam gling rgyan gcig phud gser thang nyis brgya zhe drug/ t'a la'i bla ma sku phreng lnga pa'i sku tshe gcig gi rnam thar tshon thang drug cu re lnga/ gsang ba'i rnam thar tshon thang bzhi bcu zhe drug sogs lha khang khag gi sku rten dang/ gser bris kyi bka' 'gyur/ bstan 'gyur/ sman/ rtsis/ bon chos/ rje tsong kha pa yab sras kyi gsung 'bum sogs gser bris kyi gsung rab pod chen drug brgya bco lnga bcas kyi 'gro song skabs de'i bod dngul srang sum 'bum bdun khri stong med brgya dang dgu bcu go gcig/ rab gnas kyi 'gro song la bod dngul srang drug khri dgu stong brgya dang bcu med gcig bcas gong gsal gyi 'gro song khag gsum bsdoms pas bod dngul srang sa ya gnyis dang chig 'bum sum khri bzhi stong brgyad brgya sum cu so brgyad gnas pa/ (Dung dkar 2004: 77–78).*

³⁶ Dung dkar (2004: 77–78).

³⁷ *Mchod sdong*: 518.

³⁸ *sa ya gcig nyis 'bum lnga khri lnga stong lnga brgya sum cu so gsum zho lnga skar bdun bzhi cha gcig (Mchod sdong*: 506–507). As there were 10 *zho* per *srang* and 10 *skar ma* per *zho*, the digits reported after the decimal point indicate the

objects inside the palace, including the stūpas, the ritual objects and statues of the various chapels attached to the main hall, the two huge applique thangkas to be displayed on the outer walls on special occasions, the scroll paintings, scriptures, and in particular the giant golden stūpa for the remains of the 5th Dalai Lama, which alone is calculated at 1,041,828.085 *ngul srang*.³⁹ In this context, Sangs rgyas rgya mtsho does not mention the salary for the craftsmen who created the central stūpa as well as the total of eight smaller stūpas flanking it on its right and left side and the many objects in the various chapels. Therefore, I assume that their salary is included in the labour costs of 185,853.05 *ngul srang* mentioned above. By contrast, when listing the cost of production for the thangkas and the scriptures,⁴⁰ Sangs rgya rgy mtsho explicitly includes the expenses needed to cover the salaries of the craftsmen and artists as well as their supervisors, since these wage costs are not included in the general labour costs.

The next main subtotal mentioned by Sangs rgyas rgya mtsho is 370,191.0025 *ngul srang*.⁴¹ This sum comprises all expenses for the actual building, including its murals as well as the general labour costs of 185,853.05 *ngul srang* analysed in this article.⁴²

The third main subtotal of 69,111.905 *ngul srang* is the amount spent for the various rituals (*cho ga*) performed by the monks from the monasteries of rNam par rgyal ba'i phan bde legs bshad gling (i.e. rNam rgyal grwa tshang), rDo rje brag, sMin grol gling, bKra shis lhun po, etc., and other ceremonies, like speaking “words of truth” (*bden tshig*) and the reciting of “expressions of auspiciousness” (*shis pa brjod pa*),

amount in *zho* (first digit), in *skar ma* (second digit) and in fraction of *skar ma* (third and fourth digits), i.e. 1,255,533 *ngul srang*, 5 *zho* and 7.25 *skar ma*. How this sum is made up in detail is not exactly comprehensible to me. According to my calculation of the various expenses mentioned by Sangs rgyas rgya mtsho (for the golden stūpa, the eight other stūpas, the religious objects of all the seven chapels, the applique thangkas, the other thangkas and the scriptures), the amount should be about 10,417 *dnul srang* higher.

³⁹ *sa ya gcig dang bzhi khri chig stong brgyad brgya nyer brgyad skar phyed dgu* (*Mchod sdong*: 466).

⁴⁰ *Mchod sdong*: 488–506.

⁴¹ *sum 'bum bdun khri stong med chig brgya go gcig skar gyi bzhi cha gcig* (*Mchod sdong*: 518).

⁴² *Mchod sdong*: 513.

carried out by the monks of the three large monasteries near Lhasa, Sera, 'Bras spungs, and dGa' ldan.⁴³

The total obtained by adding up the three subtotals of 1,255,533.5725 *dngul srang*, 370,191.0025 *dngul srang* and 69,111.905 *dngul srang* is exactly the sum of 1,694,836.48 *dngul srang* mentioned by Sangs rgyas rgya mtsho at the end of the chapter as the total costs for the Red Palace and the objects of its interior.⁴⁴ Of these costs, the expenses for the wages of the craftsmen and supervisors as well as the food for the corvée labourers only make up a small part. By far the largest share is accounted for by the golden stūpa, for the construction of which numerous precious materials were used.

Sangs rgyas rgya mtsho also provides information on the purchasing power of *dngul srang* at the time by converting every amount of silver taels into the amount of grain ('bru) purchasable with that sum. For example, 1,694,836.48 *dngul srang* was equal to 30,507,056 *khal*, 12 *bre*, and 5.8 *phul*. Thus, according to his calculations, for one *dngul srang* one could buy about 18 Tibetan bushels (*khal*) or roughly 504 pounds or 234 kg of barley.⁴⁵ Altogether, the equivalent of about 854,197,568 lb or 396,591.73 metric tons of barley was spent to erect the entire palace, meaning the construction complete with its interior objects.

To allow at least a vague classification of this figure, we can compare it with figures that were roughly calculated by Chinese surveys in the 1950s: by fixing the traditional Tibetan measure unit *khal* as a land area unit and equating one *khal* with one *mu* (亩) of the Chinese surface measure, the calculations bring the arable land of the territory under the jurisdiction of the Dalai Lama to about 3,300,000 *khal*, corresponding to 220,000 hectares.⁴⁶ In one example, an annual yield of 74,088 kg grain was calculated for an estate of 1,455 *khal*.⁴⁷ Extrapolated to the total arable land available, this would result in an annual yield of approximately 168,035 metric tons. If we accept this figure as an annual

⁴³ *drug khri dgu stong brgya dang bcu gcig zho dgu skar phyed* (*Mchod sdong*: 518).

⁴⁴ *Mchod sdong*: 518.

⁴⁵ Here I base 1 *khal* of grain on the same weight as in the article "Lenders and borrowers in Tibetan society" (this volume): 28 lb or 13 kg.

⁴⁶ Jin Hui, Ren Yinong and Ma Naihui (1995: 65).

⁴⁷ Jin Hui, Ren Yinong and Ma Naihui (1995: 73).

average value, the total costs of the Red Palace would be a bit more than two and a third times the annual production of barley in Tibet.

To fund these costs, numerous donors belonging to the Tibetan aristocracy and clergy supported the construction through their sponsorship. They each undertook it to make a precisely specified contribution to the costs, including the wages of the supervisors and craftsmen or the rations of the corvée workers. In many cases, the value of the donations is noted in the form of gold or silver taels, while in other cases to be mentioned is the number of livestock donated.⁴⁸ Thus, the information we receive through Sangs rgyas rgya mtsho's *Mchod sdong* also testifies to the actual engagement of the Central Tibetan elites in the great dGe lugs pa project of establishing its specific type of rule. But above all, the construction of the Red Palace, as described in this book, reveals an ability to organise large construction projects that is possible only to state-like structures with a strong centralised government. It becomes evident that in the second half of the 17th century the Tibetan government with the regent as its head had an enormous pool of labour force and material resources at its disposal, which proves a high degree of control over the society—in particular since we have so far no evidence of serious rebellions or the use of brute force to enforce authority during the construction phase.

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⁴⁸ *Mchod sdong*: 839–902.

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