

## THE PALACE OF LEH IN LADAKH: AN EXAMPLE OF HIMALAYAN ARCHITECTURE IN NEED OF PRESERVATION

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**ABSTRACT** The magnificent palace of Leh, built at the beginning of the seventeenth century, ceased to be a royal residence in 1834. It has since deteriorated into a state of total neglect and near collapse. This paper examines in detail the architecture of the palace and describes its former use. The purpose is to highlight the importance of this monument by placing it in its environmental and historic context. Tourism and modernization are now being introduced into Ladakh and the authors make a plea for action to repair and renovate this unique historic monument before it falls into total ruin.

**RÉSUMÉ** *Le palais de Leh au Ladakh, un exemple d'architecture himalayenne en péril.* Le palais de Leh, construit au début du XVII<sup>e</sup> siècle, a cessé d'être résidence royale en 1834. Non entretenu il est tombé dans un état d'abandon et menace ruine. Cet article présente l'architecture du bâtiment et ses anciennes fonctions. Le tourisme et une modernisation se développent au Ladakh et les auteurs suggèrent qu'une intervention rapide ait lieu pour réparer, renover ce monument historique tout en lui donnant une nouvelle fonction.

**ZUSAMMENFASSUNG** *Der Palast in Leh/Ladakh: Ein Beispiel himalayischer Architektur, die es zu erhalten gilt.* Der prächtige Palast in Leh, im 17. Jahrhundert erbaut, war bis zum Jahre 1834 königliche Residenz. Seitdem ist er grob vernachlässigt und dem Einsturz nahe. Diese Veröffentlichung untersucht Einzelheiten der Architektur des Palastes und beschreibt seine geschichtliche Bedeutung. Ein volles Verständnis des geschichtlichen Hintergrundes der Bevölkerung in den tibetischen Hochebenen und der sie umgebenden Berge erfordert eine Würdigung der bedeutenderen architektonischen Überreste, die einen Einblick in die Anpassung der regionalen Kulturen an die äußerst widrige Umwelt des Hochgebirges erlauben. Ladakh wird dem Tourismus und der Modernisierung geöffnet, und die Autoren plädieren für Reparatur und Renovierung dieses stattlichen, historischen Monuments, bevor es völlig verfällt.

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### INTRODUCTION

The remnant of a magnificent palace still towers above the settlement of Leh, capital of the former kingdom of Ladakh. It was built at the beginning of the seventeenth century during that period when the king of Ladakh was a powerful ruler, and it is an outstanding example of the style of monumental architecture represented by the better known Potala of Lhasa, in Tibet, which was built between 1645 and 1695 by the Fifth Dalai Lama.

While the size of the Palace of Leh may appear somewhat diminished by the surrounding mountains, on a human scale it is most impressive. The main facade is some 60 metres in length, and 58 metres high; it rises above all nearby structures, both as a colossal fortress and as an architectural masterpiece. Today, it stands in a tragic stage of decay and no photograph can reflect the true grandeur of its former position. One can only refer to descriptions by earlier travellers to Ladakh which are quoted later.

Monumental buildings, such as the Palace of Leh, are few in number, but their importance is considerable, for they provide critical insights into the high mountain cultures which for centuries have adapted to exceptionally

severe environments. It is postulated that no complete understanding of the history of the Tibetan Plateau and its bordering mountain regions can be attained without appreciation of the role and "raison d'être" of the principal architectural remains; nor can proper insights into the relationship between the local cultures and their mountain environment be derived.

It is within this general context that the history, structure, and present condition of the Palace of Leh are described here, and the argument put forward for immediate measures towards its restoration and preservation.

#### LEH, CAPITAL OF LADAKH

The city of Leh lies on the terrace of the Puchu River, a tributary of the Indus (latitude 34°08' North, longitude 77°33' East) (Figure 1). Although the area is arid, the small valley is quite fertile due to the alluvial soil and the introduction of irrigation. The city itself developed on a branch of the "Silk Route" linking Central Asia with the trading centres of Kashmir and northern India.

The walls of the city extended below the palace and en-

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FIGURE 1. The city of Leh.

closed houses of merchants, mostly Muslims, and of Buddhist farmers, and both communities lived as neighbours in good harmony. The city expanded at the end of the nineteenth century when a bazaar was built outside the walls.

The political events in Tibet in 1951 and the Sino-Indian war of 1962 brought an end to the semi-isolation of the Ladakhi communities which numbered about 88,000 people. The first event disrupted the religious and commercial contacts with Tibet and Sinkiang, and the second emphasized the strategic importance of Ladakh for the defence of India. These circumstances initiated a process of social and technical change. Leh, the capital of the district, became an important military centre, and a network of roads, new buildings, and an airfield were constructed in this section of the Indus valley. With the presence of the army the local population became a minority; the economy, mainly based on the barter system, was radically modified. With this rapid and perturbing development, new facilities, such as energy and water supplies and better communications, were introduced.

In September 1974 Ladakh was opened to tourism. This was the final stage of development for the previously isolated community. As a result of the opening up of a hitherto unknown destination the need for development was intense and there was no adequate infrastructure to accommodate it. One of the obvious tourist attractions should have been the Palace of Leh but, unfortunately, the development of hotels, guest-houses, and curio-shops overshadowed the urgency of renovation and preservation of the palace itself. No one considered the importance of cultural identity. People turned their backs on tradition and blindly sought the rapid financial returns of modernization.

The authors of this paper carried out the main survey of the palace in 1975 and more detailed information has been collected since. This description is written primarily to help draw world attention to the deplorable present state of this unique building.

## HISTORY OF THE PALACE

Leh (*Gle*),<sup>1</sup> the capital of Ladakh (*La-dwags*) was first the capital of King Dragpa Bumde (*Grags-pa 'bum-lde*), who ruled the area of Tö (*sTod*), the "Western part" of which included Leh, from A.D. 1400 to 1440.

Above the palace is the temple of Namgyal Tsemo, built during the lifetime of King Tashi Namgyal, who ruled from

<sup>1</sup>The Tibetan names and terms in this paper are given in a phonetic form; certain words of historical, religious, or technical nature have been given in their correct spelling in parenthesis for the purpose of comparative studies.

A.D. 1500 to 1532. The nearby villages of Chubi were also founded by this king.

The palace, known as Lechen Palkar (*Gle-chen dPal-mkhar*) was built around 1600 by the greatest of Ladakhi kings, Senge Namgyal (*Sen-ge rNam-rgyal*, A.D. 1570-1642).

According to local tradition the father of King Senge Namgyal decided to put a palace above Leh; however, it was Senge Namgyal himself who chose the exact site, on a granite spur which had the shape of an elephant's head. At the bottom of this ridge there is an ancient poplar tree

whose main trunk lies horizontal while an off-shoot grows vertically, like an elephant's tusk; near this tree lives the goddess Tsugtor Lhamo (*gCug-tor Lha-mo*). King Senge Namgyal gave orders for an important building to be constructed by the local craftsmen, for his family, the four "Kalon" ministers, and the sixty "rGanmi," elders; it had to overlook the race track extending east-west. It took only three years to build. The chief mason was so skilled that the king commanded that his right hand be cut off to prevent the building of another such palace.

The first westerners to describe the palace were William Moorcroft and George Trebeck who lived in Ladakh between 1820 and 1822 (See Frontispiece). They write in their book *Travels in Hindustan*:

The most considerable building in Leh is the Palace of the Raja, which has a front of two hundred and fifty feet, and is of several stories in height, forming a conspicuous object on the approach to the city. This as well as the houses in general, diminishes in extent as it rises, and the whole town at a distance has much the appearance of a cluster of houses of cards . . .

During the Dogra war (1834), the palace was besieged and the southwestern chörten partly destroyed. As a result, the royal family moved to Stok, south of Leh and on the left bank of the Indus. The Palace of Leh thus lost its function and was never again used as the royal residence.

A short description of the palace (1846) has been given by Alexander Cunningham in his book, *Ladakh*:

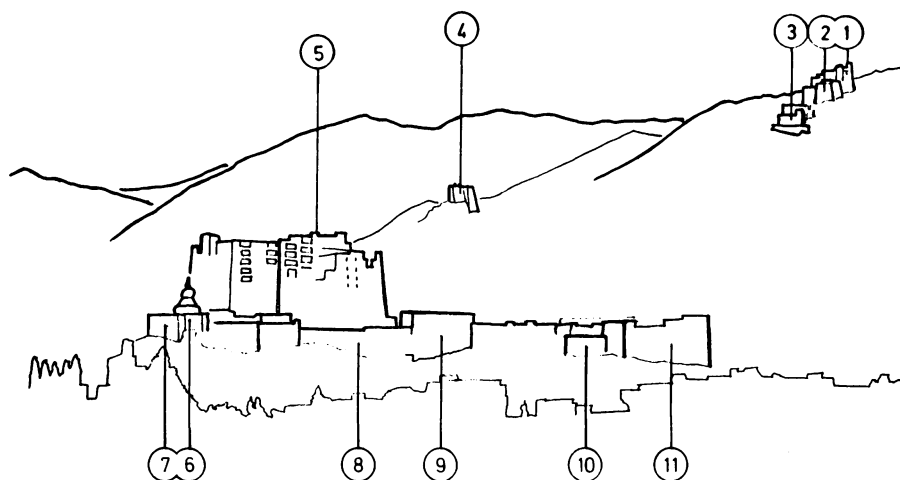


FIGURE 2. The Palace of Leh showing its location and identification of the buildings:

1. Palace fort of Tashi Namgyal
2. Temple of the Guardian Divinities
3. Temple of Maitreya
4. Ruin of watch tower
5. Palace
6. Chörten
7. Temple dedicated to Padmasambhava
8. Royal stables
9. Gompa Soma, a new monastery
10. Temple dedicated to Maitreya
11. Temple dedicated to Avalokitesvara.

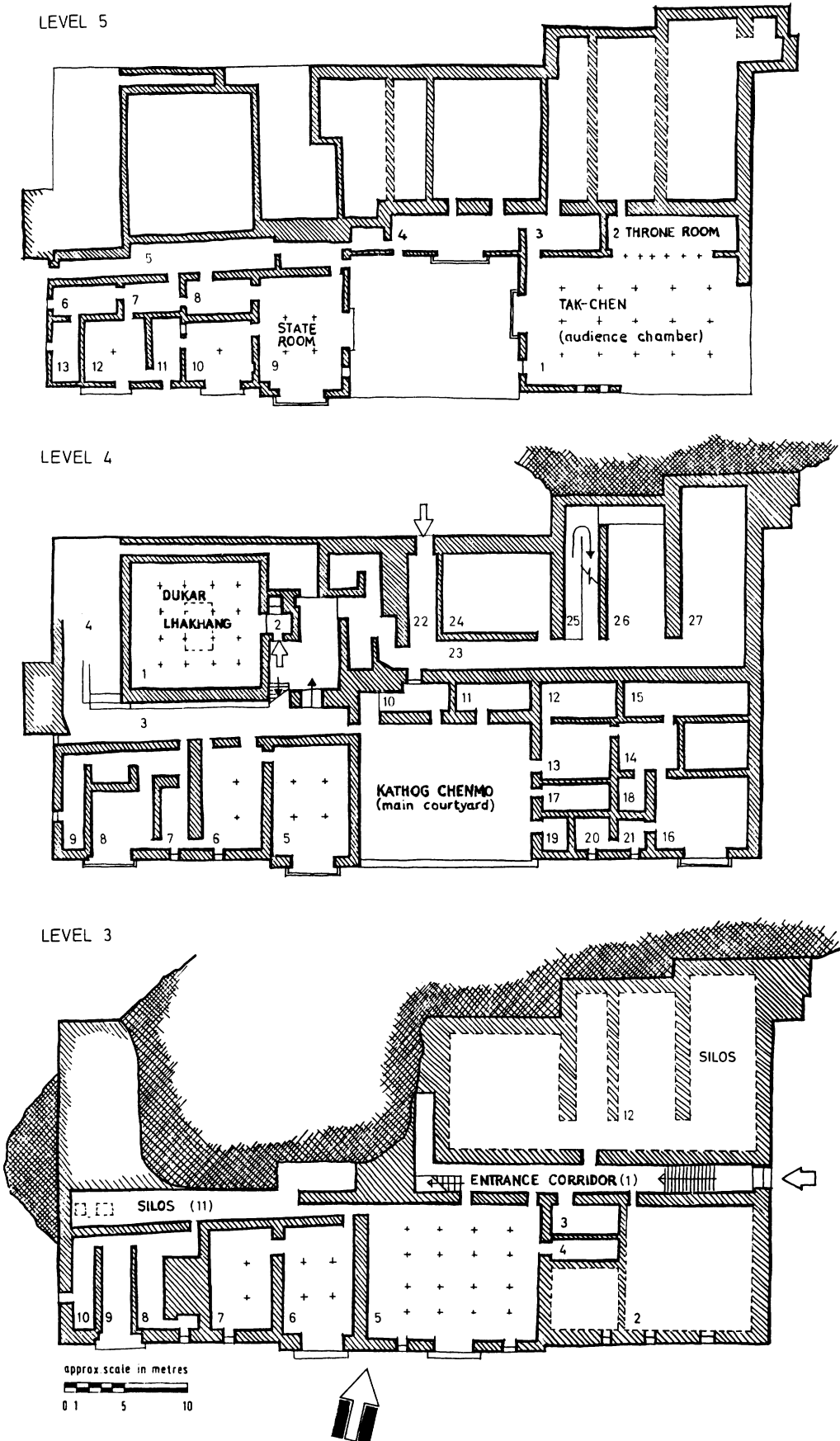


FIGURE 3. Floor plans of Levels 3, 4, and 5.

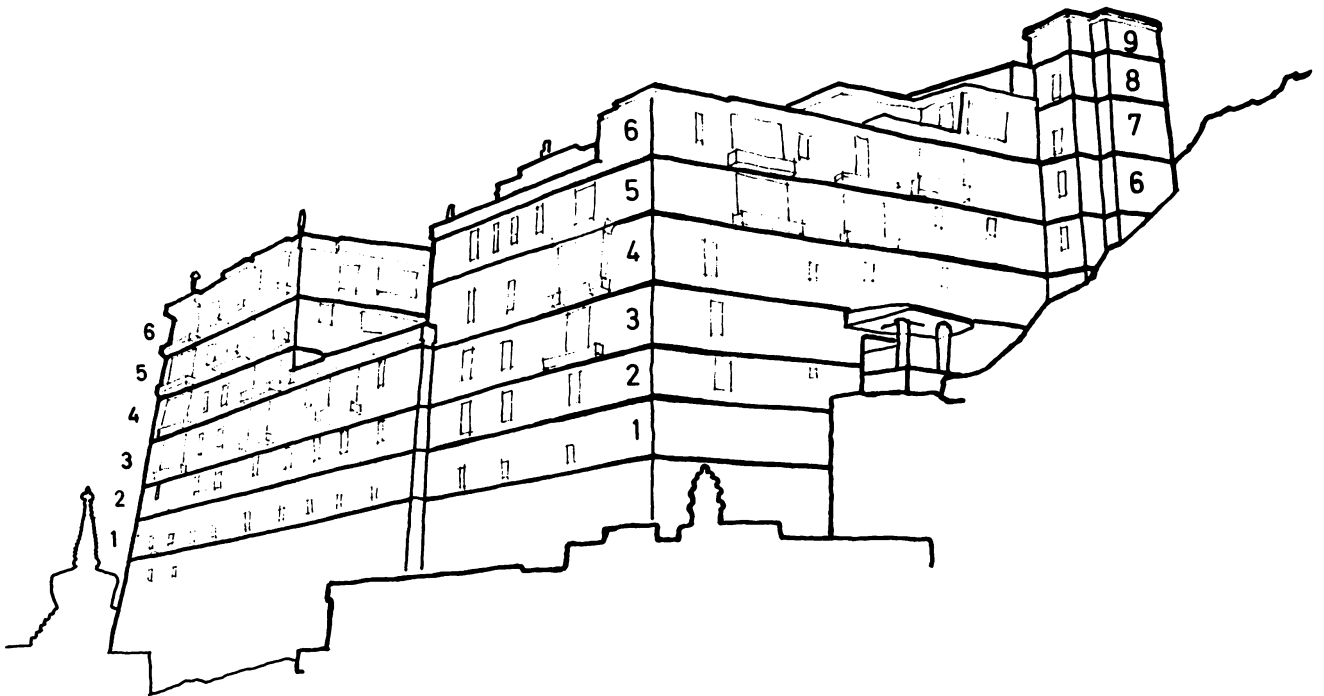


FIGURE 4. The Palace of Leh. This photo was taken by Dainelli in 1930. The nine levels are identified in the sketch diagram.

The Royal Palace of Leh is a large fine looking building that towers in lofty pre-eminence over the whole city. It is 250 feet in length and seven stories in height. The outer walls have a considerable slope as their thickness diminishes rapidly with their increase of height. The upper stories are furnished with long open balconies to the south and the walls are pierced with a considerable number of windows. The beams of the roof are supported on carved wooden pillars, and covered with planks painted in various patterns on the outside. The building is substantial and plain; but its size and height give it a very imposing appearance . . .

In former times, when the magnificence of royal occasions intermingled with the solemnity of the religious ceremonies, the pageantry and colour one associates with royalty and Tibetan Buddhism must have reached its peak in this monumental setting. But the war of 1834 disrupted the social fabric and the royal Government, together with the palace and its splendours, was reduced to near collapse; the social and religious activities celebrated there almost totally disappeared. Only the festival of "Dosmoche" survived, and this New Year festival was observed in the palace. Helena Norberg-Hodge described this festival (personal communication):

In former days the "Dosmoche" ceremonies started on the 28th of the 12th month (Tibetan calendar). Lamas from various monasteries would come to Leh. The lamas from Trak-thok (Brag-Thog) monastery erected a large thread-

cross (*mDos-mo chen-mo*). Lamas of Fiang and Mato would organize sacred dances (*cham*) on alternate years in the Gompa Soma courtyard. People from remote villages brought salt, apricots, nuts, wool, butter and animals to trade in the bazaar. During the "Dosmoche" celebrations the nobility would come to see the king. The king would give a party for the *skutak* in the palace. *Takshusma* (women of medium-rank, upper class) would perform court dances in the palace courtyard. Court *beda* would play music. The king in full regalia would ride on horseback with the *skutak* from the palace gate to the end of the *maneringmo*. The procession would be led by *Kharmon* on horseback and would pass through the bazaar and back to the palace. There would also be horse races in Leh bazaar led by one *lardak* (a layman who was priest of the palace God) worshipping the palace God. On "Dosmoche" the *lardak* would wear special dress. The last one to race was *cham-jukpa*, who represented the manager of Hemis Gompa. This ceremonial continued until 1947. Worship is still conducted in Leh in Gompa Soma.

Now the palace serves as a mere backdrop to these annual ceremonies, which take place around the 28-29th day of the twelfth lunar month of the Tibetan calendar (in January-February), when monks of different monasteries in turn are invited to perform the rituals which insure both health and prosperity. This is still the great social and religious event of the year, and is attended by both the officials and the people of Ladakh.

## THE PALACE AND ITS ENVIRONMENT

The Palace of Leh is part of an ensemble of structures which crown the ridge of Namgyal Tsemo. The ridge extends several kilometres in length and bears a series of buildings in differing conditions and stages of decay. These are shown in Figure 2: (1) the palace-fort (built about 1520 by Tashi Namgyal); (2) the Gön-khang (*mGon-Khang*) temple of the Guardian Divinities (also built by Tashi Namgyal); (3) a red-coloured temple that contains an image of the six-armed Mahakala. Lower down is the temple dedicated to Maitreya. Ruins of a round watch-tower (4), dating from before the time of Tashi Namgyal, can be seen on the ridge. On the southern side of the ridge, a large chörten (6) is located close to the palace, and directly below this chörten is a temple dedicated to Padmasambhava (7). Along the same contour, set into the rock beneath the palace, are the stables (8) and the Gompa Soma (*dGon-pa*

*so-ma*), (9), a new monastery dedicated to Sakyamuni, which is a two-storeyed building with a large courtyard in front.

At the southeastern end are two more large temples: one dedicated to Maitreya (10), the other to Avalokitesvara (11). The former dates from the early fifteenth century.

Behind the palace, close to a group of houses known as Chubi, are the spring and reservoir which formerly supplied water to the palace.

Below the palace, and originally contained within the walls of the old city of Leh, are several additional interesting buildings in a variety of local styles of the traditional architecture. Today, the city has burst its seams; it now extends well beyond the confines of the old walls occupying what used to be farmland.

## THE PALACE, A MODEL OF TIBETAN ARCHITECTURE

The palace undoubtedly exemplifies the finest of traditional building technology and craftsmanship in Ladakh. Its layout, structure, materials, and decorations comprise what can best be described as Tibetan architecture. Other than its size, its most striking aspect is the "battered" wall construction.

According to tradition in Tibetan buildings there are always nine specific levels (Figures 3 and 4). Nine is an auspicious number for many Asiatic peoples and the

Heaven was thought of as having nine stages, the supreme one being on the top; and one sees an analogy with the nine-stage Mount Meru of the Indian mythology. Many temples and palaces, including the Potala in Lhasa, also have nine levels. In the palace of Leh, a further two sub-levels have been added to compensate for the site conditions (Figure 5). The total height of the structure is 58 metres measured from the base of the walls on the southern elevation to the summit of the ninth level. In keeping

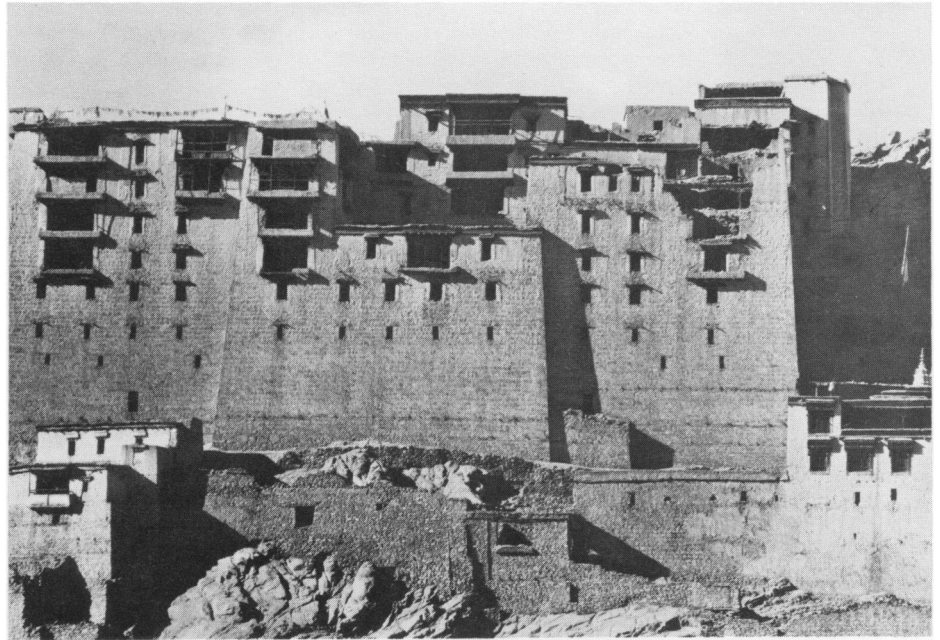


FIGURE 5. The south facade of the palace showing the two sub-levels. Photo by J. Sanday.

with tradition, the upper section is given over to uses by the nobles: royal apartments, state rooms, throne room, reception halls, two temples, and religious rooms. The lower sections are for staff, storage silos, and stables. In the middle of the building, at the fourth level, the main courtyard (*Katog chenmo*), opening toward the south, is about 40 metres above the ground. Here was the centre of the social and cultural activities of the royal family and the government.

Actual construction of the palace was governed by its siting on a granite saddle (Figures 5 and 8). Nevertheless, traditional techniques for massive masonry construction were used, with both foundations and cross walls giving buttressed support to the external south wall and the internal spine wall. The heavily battered walls are at least 1.75 m thick at the base and diminish to approximately 0.5 m where the stone work gives over to brick.

The foundations are set directly onto the rock and follow the contours of the granite saddle.<sup>1</sup> The upper levels, where loads are lighter, are constructed of sun-baked brick work, as was traditional with local domestic architecture. Floors are of unhewn timbers which span either the standard structural module formed by the walls or, in the case of the larger rooms, the beams and pillars on the southern side. A mesh of scantlings, or twigs, laid over the beams, carries the clay floor base which varies in thickness.

<sup>1</sup>P. Le Fort, Centre National de la Recherche Scientifique, reports (personal communication): The palace is built on a ridge made up of heterogeneous granitoid rock, mainly granodioritic in composition with numerous dark inclusions. The granitoid has a medium grain size in general; fine grain lenses and zones from some tens to some hundreds of metres occur. These lenses follow the general foliation of the granitoid dipping strongly to the north. Different kinds of dykes also occur including light coloured aplites and pegmatites that cut the granitoid and display preferential alterations. The palace itself is built on a little altered part of the granitoid that is of rather good quality.

As a room's importance is usually denoted by its size, so the number of pillars, the size of the windows, and the quality of the carving and decoration are also indicative.

In some cases, rooms of considerable size, used as assembly halls, require a grid of 16 pillars to maintain the structure. As the materials available locally are very limited, local stone, in this case granite from Phyang, and wood, poplar (*Populus euphratica*) and juniper, which is now no longer available, were most commonly used. To augment these natural materials, the Ladakhi commonly use sun-baked clay blocks in domestic buildings. As in most architectural styles, various elements of structure that are no longer used are retained in a decorative form. For example, often as decoration over the windows, lintels of a circular line motif are cut out into a board to represent beam ends. Above this a compact layer of twigs set into the parapet wall represents the practice of stacking firewood around the terraced roofs. Externally the only intricate decoration is found in the carved trellis work of the windows and in the simple carvings on the lintels over the windows. An interesting external feature of the main south-facing facade is the slight projection of the central section of the building (Figure 5). This is said to represent the pleats or folds in the Lamas' robes — no doubt an effort to relate this massive structure to the human scale.

A typical feature in this arid zone are the flat roofs which give little concession to the rains. These roofs form important terraced areas which can be used for different domestic activities. Their construction is similar to that of the floor, but with a greater thickness of clay. Around the perimeter of these terraces there are parapet walls which serve not only as barriers, but also are intended to give some protection to the structure beneath.

To further appreciate the traditional Ladakhi architecture, it is worthwhile noting how the local materials and



FIGURE 6. Detail of wall construction.

skills were used here to their best advantage. One of the most striking features of the palace building is the high quality of the stonework and the finesse that marks the construction of the external walls (Figure 6). The batter of the walls demanded that each stone not only required careful gridding, but also had to be shaped to follow the gradient, coursing, and bonding. Introduction of the bonding timbers (*Juniperus*) at approximately three-metre intervals in the lower levels re-establishes the coursing of the stonework throughout the height of the walls.

Rising from the base of the building is a series of cross walls, or buttresses, in granite, forming a caisson-like grid which supports the vast area of external walling. In the upper levels the walls are built of traditional compact clay blocks (*Ja-bag*), but they do not follow a specific pattern. Bedded in clay mortar, they are constructed in this way to lighten the direct load on the walls below, and they are often mixed with random stonework.

The architectural disposition of the windows, their proportions and size are very characteristic of Tibetan architecture. The window openings follow a systematic pattern on the facades: those at near-ground level are narrow slits, for both structural reasons and for fortification and also because the lower rooms are generally used for storage. The rooms on the upper levels are of greater importance as state rooms and residential quarters, and light is essential. The size of the openings is increased accordingly, almost reciprocating the batter of the walls. To denote their

importance and to express their function, the “noble” rooms have large projecting balcony-type windows.

Externally it appears that the building was at one time plastered, as is traditional in Tibetan architecture. Internally, the walls have been plastered with mud mixed with the chaff of barley while the more important rooms are finished with fine clay plaster. The noble chambers have been decorated with water-based colouring, usually light yellow. The most important rooms are embellished with murals.

From Level 1, on the south side, there is a series of voids which drop down a further two sub-levels to form the foundation. Externally, these sub-levels are expressed by a few small openings not necessarily conforming to specific floor levels (Figure 5).

The main entrance to the palace is located under an elaborate porch at Level 2, on the eastern side. Although this porch must have been built at the same time as the palace, its style and presence are not in keeping with the rest of the building (Figures 7 and 8). The carved head of a lion, emblem of the king (*Senge*—lion, *Namgyal*—



FIGURE 7. The main entrance porch on the eastern side showing the unusual canopy and elaborately carved timber; probably of Kashmiri influence, it depicts the Snow Lion which was the emblem of the builder.





FIGURE 8. The east facade showing the main entrance porch. Note the present condition of collapse compared to Figure 3, the photo taken in 1930; most of the collapsed sections are in sun-baked bricks.

victory) who built the palace, was placed centrally over the door. The entrance corridor, cut into the rock, by-passes this level and, while giving access to Level 3, leads primarily to the courtyard at Level 4.

At Level 3, the foundation grid is established. Here is a series of silo openings cut into the granite rock saddle along the longitudinal axis of the building approximately 2.6 m in depth.

At Level 4 is the main courtyard, *Katog-chenmo*, as well as the temple *Duk-kar Lhakhang*.

Level 5 is particularly important. The main assembly hall, or hall of audience, *Tak-chen*, is 10.45 m wide and 17.45 m long, and is located at the southeast corner. This hall was originally reached by a staircase directly off the main courtyard.

The first level where the form of the total layout of the palace becomes apparent is Level 6. The main living quarters of the royal family were situated on this level. They consisted of both reception and retiring rooms, mostly in the southeastern portion. The central section was probably occupied by the kitchens (*sol-thab*) and store rooms (*shrol*) with additional living quarters in the eastern section.

Level 7 is the official ceremonial level. Here were three separate sections: the throne-room (*Jungra simjung*), the

temple (*Sangyeling Lhakhang*), and the east-facing royal chamber (*Shar-gi simjung*). The large terraces to the southeast served as assembly areas during official gatherings.

At Level 8, the accommodation is reduced to a few ancillary rooms in the northeastern corner.

Following tradition, the summit of the palace is reached at Level 9. It consists of one room (*tse-simjung*) in the northeast corner designed for worship to the "Gurlha" (*mGur-lha*) divinities whose special function is to protect the royal line.

Although there were probably over one hundred rooms in this palace, there are only a few that can still be identified and which are of considerable importance. The major rooms are as follows: At Level 4, the main temple, *Duk-kar Lhakhang* (*sDugs-dkar Lha-khang*) (10.35 m by 10.05 m), also called the *mThil-gi Lha-khang*, is situated in the northwest corner on solid rock. The temple is basically free-standing within its own area, and its individual ground or floor-level is established approximately one metre above the main courtyard. Access to the temple is by way of a porch at the southeast corner and through a doorway. The main entrance to the chapel is at a right angle to this axis. The chapel is square in plan; the roof structure is supported by a grid of 16 equally-spaced pillars that carries a series



FIGURE 9. The altar of the main temple, Duk-kar Lhakhang, with the image of Sakyamuni.

of beams and joists. Placed centrally in the ceiling is a lantern constructed out of timber, panelled, and open to the east. Internally on the south wall stands a stucco image of Ushnishattapatra (*sDug-dkar*) which is Tibetan for "The Lady with the White Parasol" (equivalent to the 1,000-armed form of Tara). On the left is a statue of Sakyamuni (Figure 9). On both sides are statues of Padma-sambhava, and racks for the 103 volumes of the Kanjur (Tibetan sacred books). There are no murals except those in the lantern, which depict miniature scenes of the life of Sakyamuni. The treasures of this temple are said to have been taken to the palace of Stok. The temple is looked after at present by the monks of Hemis, of the Drug-pa Ka-gyü-pa order, and one monk resides at the palace.

At Level 7 another temple, Sangyeling (*Sang-rgyas gling*) (8.50 by 7 m), was located. It was the king's chapel, containing images of Sakyamuni and Drolma.

The hall of audience "Tak-chen" (10.45 by 17.45 m), occupies the southeast corner of Level 5. On the northern side of this spacious hall was a partially enclosed throne. There is an opening, or atrium, centrally placed in the ceiling of the hall. Its roof is supported by a grid of bracketed, decorated pillars. This was the hall where ministers and members of the government met.

Level 7, the official ceremonial level, contained the throne-room "Jungra simjung" (12.66 by 7.30 m) which overlooks the main courtyard. This room of great proportions has a ceiling supported by a row of carved and decorated pillars. The throne itself is set on a slightly raised dais; it was in this state room that the king used to meet the delegates from Tibet and the large terrace on the southwest served as an assembly area during official gatherings.

## THE PALACE TODAY

After the Dogra war, the royal family left Leh to reside in a palace at Stok. The Palace of Stok was built by King Tsepal Dandrup Namgyal about A.D. 1820 and is still occupied by the descendants of the royal family.

The Palace of Leh is totally abandoned, except for a single caretaker who still performs the daily worship in the temple. Following its abandonment and lack of maintenance, the structure became progressively impaired until today the western facade is in danger of collapse (Figure 8). The probable reasons are that the palace lacks a solid rock base, and the fact that the walls were built on a far steeper gradient than the rest of the palace. However, it appears that the builders had anticipated such problems and designed the walls to give an external buttressing effect to this weaker structure.

Extensive vandalism in several areas has accelerated the deterioration and has caused major portions of the structure to become totally unsafe and hazardous to visitors. Unless immediate action can be taken to repair and consolidate this landmark, it will soon fall into a state of total ruin.

The people of Leh are at present seeking support to enable a comprehensive survey of the building and its struc-

ture to be made and to initiate an emergency "first aid" programme to be carried out to prevent further deterioration of the structure and fabric of the palace. Such proposals will also consider its future use so as to make the renovation project viable in the present time of economic stress, for it is essential to establish some revenue-earning areas in the palace. For example, the lower section could serve as an ethnographic museum for the display of the ways of life of the region, and for exhibits and sales of the local arts and crafts. The middle section, including state rooms and the main courtyard, could serve as a fine setting for a cultural and historical museum of Ladakh, where the development of Buddhism in this area could be traced, and the function of Ladakh in relation to the ancient Silk Route and trade across Central Asia could be displayed. Upper levels of the palace, when repaired and restored, could be used for offices.

Proposals for infusing new life into this historic monument would surely add to the cultural and tourist attractions of Leh where there is little to offer to visitors besides the palace. If such proposals are implemented, they would ensure the future of this unique example of cultural and architectural heritage.

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## MOUNTAIN RESEARCH AND DEVELOPMENT



Leh, the Capital of Ladakh, from *Travels in the Himalayan Provinces of Hindustan* by W. Moorcroft and G. Trebeck, published in 1820. The Palace of Leh is now in need of restoration (see pages 1-11).