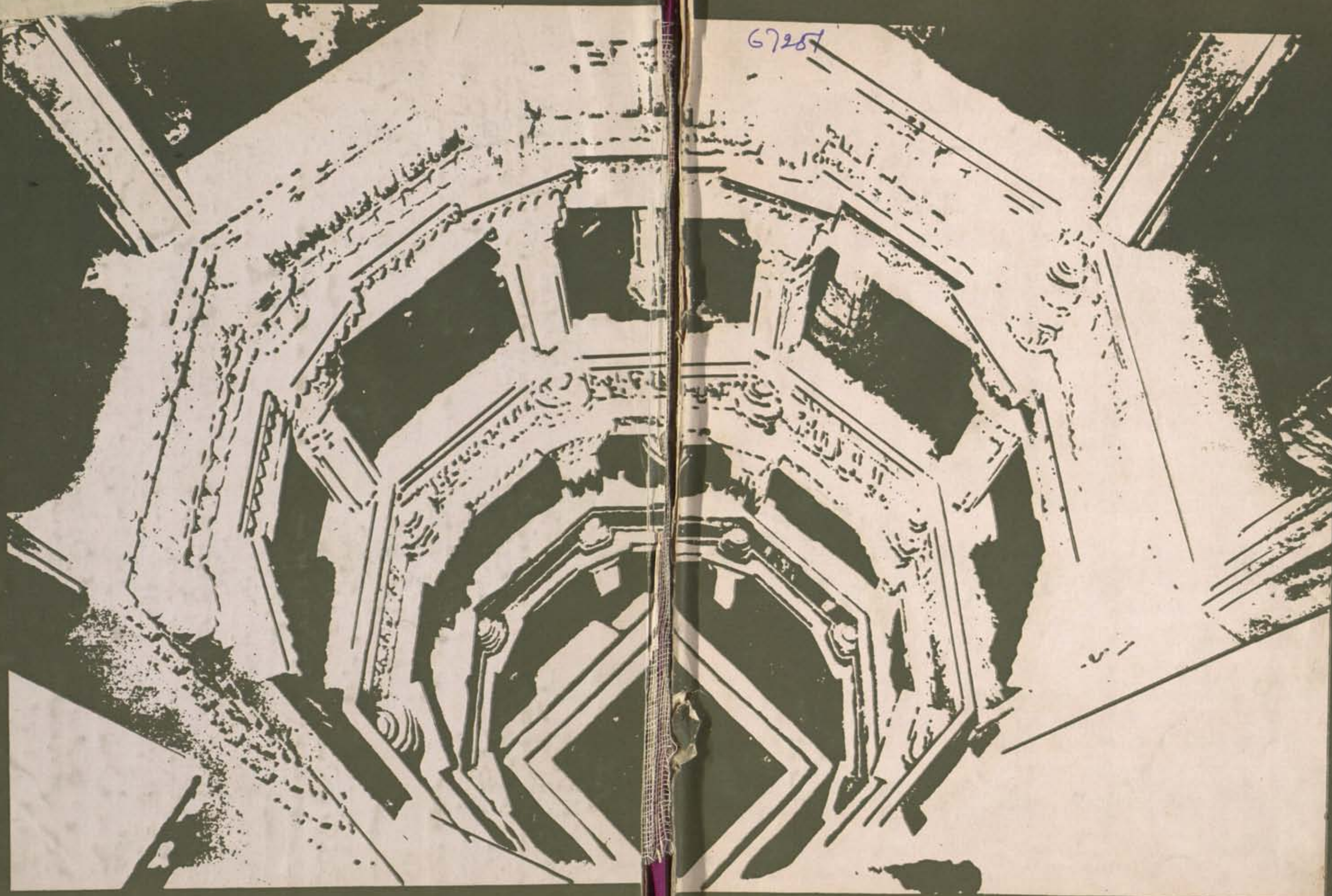
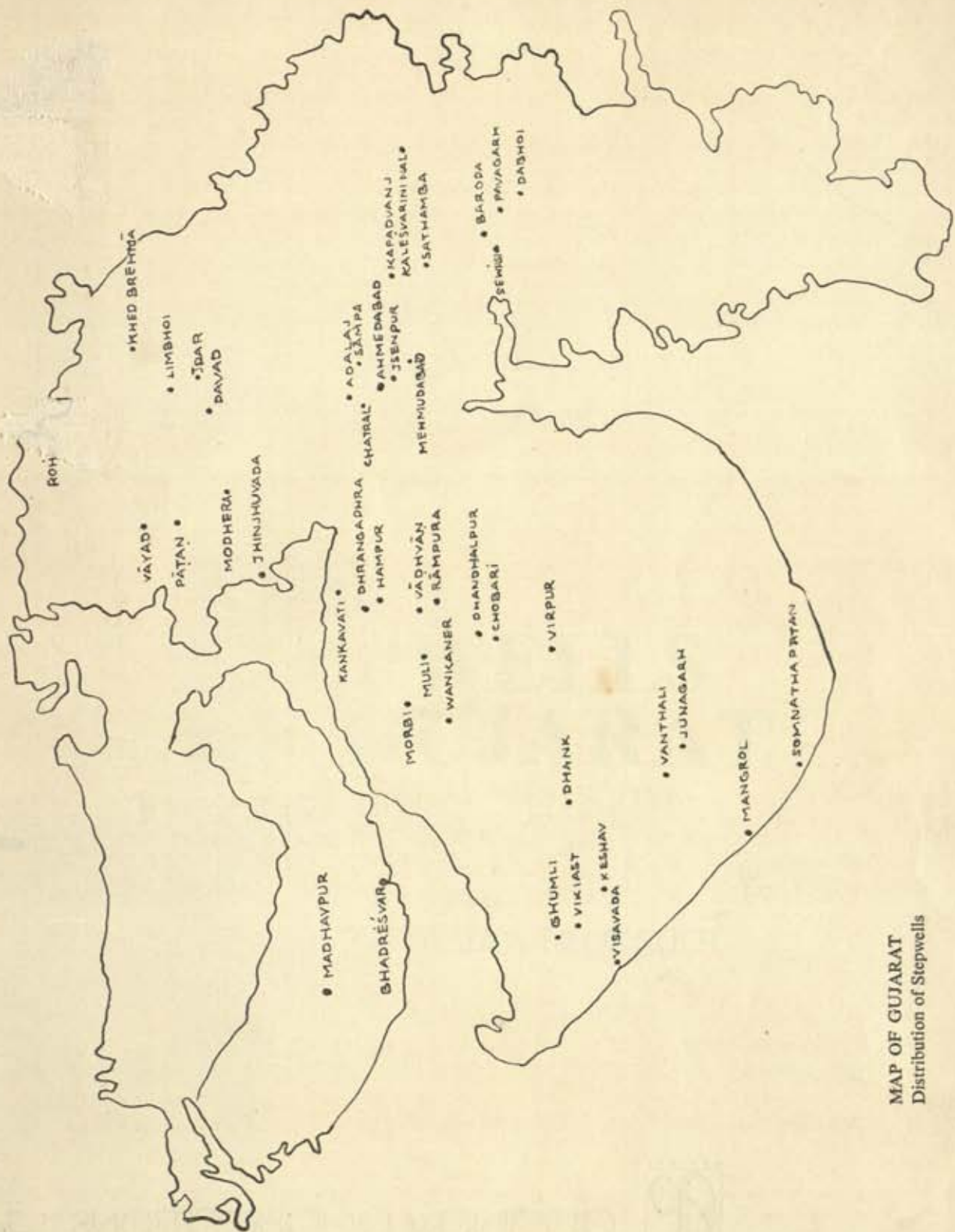


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THE STEPWELLS OF GUJARAT
In Art-Historical Perspective

To My Parents



MAP OF GUJARAT
Distribution of Stepwells

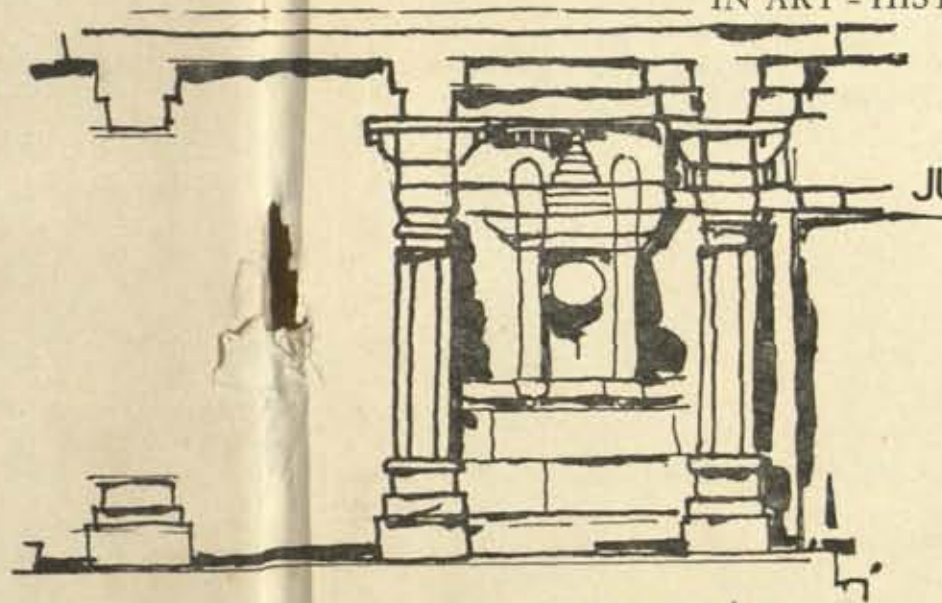
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THE STEPWELLS OF GUJARAT

IN ART - HISTORICAL PERSPECTIVE

JUTTA JAIN-NEUBAUER



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1 Ghumli — Vikir Stepwell—beginning of 12th cent.



II Patan — Bahadur Singh Stepwell—c. 18th/19th cent.

Preface

Stepwells are an important part of the main current of architectural activity in Western India. This unique form of underground well-architecture survives from the 7th century in the existing monuments all over Rajasthan and Gujarat, but attained unsurpassed monumentality and elaborateness in Gujarat alone.

The present work deals with the general architectural features of the stepwell, information from epigraphy and literary sources, historical chronology, typology, and religious and secular sculptures ornamenting a stepwell. The material for this study was collected through direct fieldwork in Gujarat from May 1976 to March 1978. All the major stepwells were surveyed and photographed during these fieldtours. Five major and typologically very important stepwells were measured in minutest details and scale-drawings of ground plans and sections were prepared for the first time.

With the help of inscriptions and other historical material as well as comparative stylistic analysis a chronology of the stepwells has been constructed. From about 60 stepwells visited by me, a detailed description of the location, historical setting, general architectural structure, structural elements, sculptures and ornamentation, and the age of 34 significant stepwells is presented here. The basic features of a stepwell (Sk. *vāpī*) as described in the *Śilpa-Śāstras*, the classical texts on architecture, of the northern as well as the southern tradition, are summarised and compared and contrasted with the actual monuments. More than 400 photographs are attached to make evident the point made in the text. The photographs have been provided with short legends, as detailed explanations are given in the text with the relevant figure reference.

The prevalent architectural terminology in Sanskrit in connection with temples of Western India has been utilised for the equivalent parts of the stepwells. When such terms were not forthcoming for certain architectural elements in any traditional source, new descriptive terms in English have been coined. For the transcription of Sanskrit and other vernacular terms, the current international system of diacritical marks has been followed. A glossary of these words and their meaning is given at the end.

The entire work has been carried out under the guidance of Prof Dr Klaus Fischer, Department of Oriental Art History, University of Bonn, West Germany, and that of Pandit Dalsukh Malvania and Dr Nagin Shah, both at the L.D. Institute of Indology, Ahmedabad, India. The published works and numerous discussions and correspondence with Mr M.A. Dhaky, American Institute of Indian Studies, Banaras, India, were of immense value for this work.

My study and stay in India were sponsored by scholarships from the DAAD and the Government of India, Ministry of Education, from the years 1976 to 1978.

I am indebted to the librarians of the L.D. Institute of Indology, the B.J. Institute of Ancient Indian Culture, Gujarat Vidyapith, and the Gujarat University (all in Ahmedabad) and the Oriental Institute (Baroda) for their help and cooperation; I am also grateful to the

Archaeological Survey of India of the Western Circle (Baroda) as well as of Gujarat State (Ahmedabad).

I express my deep gratitude to Dr H.P. Shastri, Dr H. Gaudani, Shri Manibhai P. Vora and Shri P.O. Sompura for their advice and suggestions. For editorial corrections of the English manuscript, I am thankful to Mrs Margaret Mukherji (London/Ahmedabad) and to Mr Ghanshyam Pandya and Mr Mayank Shah (Ahmedabad) for their help in preparing Plans I to V.

Introduction

1. The area of Gujarat

Gujarat, one of the 22 states of the Indian Union, is situated in the western part of India and covers approximately an area of 184,035 square kilometres. It came into being as a separate state on 1 May 1960 under the States Reorganisation Act of 1960. Formerly, it was a part of the Bombay Presidency under British rule.¹ Before that the territory of Gujarat was divided into numerous principalities ruled by Rajput or Muslim overlords.

The state of Gujarat is bounded by the Arabian Sea on the west, Rajasthan on the north and north-east, Madhya Pradesh on the east and Maharashtra on the south and south-east. It has also a common border with Pakistan in the north-western part adjacent to the Rann of Kutch. Gujarat has 17 districts in which there are 185 *talukas*.² The term *kanṭha* which occurs in local regional names denotes a certain geographical division, named after the main stream in the area, as, for example, Sābarkantha (around the river Sābarmatī), Banaskantha (around the river Banas), Mahīkantha (around the river Mahī). Ahmedabad, which was founded by Sultan Ahmed Shah I in 1410, is now the temporary capital of the state and the main centre of commerce and industry. A new capital is being built at Gandhinagar, about 20 km to the north of Ahmedabad. The 17 districts of Gujarat are: Kutch, Jamnagar, Amreli, Junagadh, Rajkot, Surendranagar, Bhavnagar, Ahmedabad, Sabarkantha, Mehsana, Banaskantha, Kaira, Panchmahals, Baroda, Broach, Surat, Dangs.

The state of Gujarat falls into two main geographical divisions, i.e., the mainland on the east and the peninsula on the west. The latter is also known by its ancient name, Saurashtra (from Surashtra which occurs in inscriptions and literature).³ Often it is incorrectly called Kathiavad. Kathiavad is really the central part of the peninsula of Saurashtra. It means the 'land of the Kathi'. The Kathis, who came to Saurashtra from the remote north-western regions of India passing through Sind and Kutch in about 1400, became rulers and chieftains over small kingdoms in central Saurashtra towards the end of the 16th century.⁴ Likewise other regions in Saurashtra are called after the ruling Rajput clans—Gohilvad, 'the land of the Gohils', along the Gulf of Cambay around Bhavnagar; Jhalavad, 'the land of the Jhalas', the northern area around Dhrangadhra and Halvad; Babariavad, 'the land of the Babarias', the southern coastal region near Junagadh.

The mainland of Gujarat is divided into northern, central and southern plains, which are broken up by valleys of various rivers such as the Sābarmatī, the Mahī, the Narmadā and the Taptī. The peninsula of Saurashtra has masses of hills in the central and southern regions and plains in the remaining area as well as the coastal strip along the Arabian Sea. The peninsula of Kutch, which is to be found on the north-western border consisting of plains with stray hills, shows a similar geological structure as the peninsula of Saurashtra. The Rann of Kutch with the area called Banni, situated at the northernmost tract of Kutch, has saline marshes and fertile loamy soils whose low-lying areas are inundated during the monsoon months.⁵

The construction of stepwells in the arid and hot climate of Gujarat is an interesting example of the response of the people to adverse climatic and geographical conditions. These

preserve and store water, the most essential precondition of life, as long and as fresh as possible, even during the hottest summer months. They have narrow stairs going deep down into the earth in order to expose as little surface-area as possible to the sun and to provide large areas of shade in the various storeys and galleries. The latter are extremely important because there are very few forests and trees grow only along river banks or in irrigated areas. Forest-vegetation is found only in some parts of the mainland and in the Gir forest in southern Saurashtra. The remaining areas are covered by savannah-like vegetation in which stray trees or small woods and low, thorny scrub dominate the landscape.⁶ The peninsula of Kutch has a similar kind of vegetation, whereas the Banni area in northern Kutch has fertile soil producing a grassy vegetation which makes cattle-breeding and dairies the best possible occupation for its inhabitants.

Most of Gujarat, except the north-western side of Kutch, lies in the monsoon belt, with rainfall during the months of July, August and September. There are three distinct seasons—cool and more or less dry in winter (November to January), hot and very dry between February and May, and hot and humid or wet monsoon season, beginning in June and occasionally lasting up to September. Only during these few months of the monsoon is water available in plenty, when tanks, rivers, lakes, wells and stepwells get filled with water. The storage system, therefore, has to be very extensive and cleverly arranged in order to tide over the remaining nine or ten months of the dry season. It should be noted that the annual rainfall diminishes gradually towards the north, from 120 to 250 cm in the south to a mere 50 cm in the north. The peninsula of Saurashtra, lying between the dry zone of Sind and the path of the monsoon, is generally dry, having an annual rainfall of about 40 to 70 cm. The most arid region is the Kutch district.⁷

This climatic condition dictates the need for storing water for daily use and irrigation. To a certain extent stepwells, next only to other reservoirs like ponds, tanks or artificial lakes, have fulfilled these requirements.

2. Distribution of stepwells in Gujarat and other areas

Innumerable stepwells are found all over Gujarat. *Mirat-i-Ahmadi*, a history of Gujarat in the Persian language completed in 1761 by Ali Muhammad Khan, says, "Gujarat has many rivers, innumerable reservoirs and stepwells."⁸ Travelling through the country, one finds that nearly every village and town has at least one stepwell of its own, that many of them have interesting architectural settings and artistic embellishments.

In the course of recent industrial development, many of the stepwells have lost their inherent function (water supply and storage) and are either deserted or in a broken down condition due to neglect and lack of interest of the people living around. However a large number are still in use, especially by women who fetch water, wash clothes and utensils or bathe in stepwells (observed, for example, in Kankavati, Hampur, Visavada, Virpur, also in Ahmedabad and some other places). The Khengar stepwell in Vanthali has an electric pump-set installed for irrigation of the orchards in the vicinity. The reason for desertion of stepwells is not only the decay of the structure itself, but often the drying-up of the well due to ecological conditions. One main cause of this is that the ground water level sinks below the bottom of the well due to rapid pumping out of water in industrial areas. One illustrative example is the stepwell of Dada Harir in Ahmedabad, which is now completely dry but used to have water up to the third storey till the end of the last century.⁹

In the southern and south-eastern parts of Gujarat, the number of stepwells is relatively less. Also no monument of elaborate architectural structure or fine workmanship is found. The existing stepwells are simply utilitarian in character and of little art-historical importance, and therefore these are not included in this monograph. The reason for this might be sought

in the climatic conditions. Southern Gujarat has—compared to other regions—more rainfall and a less arid climate, so that the need for water-storing facilities might not have been felt so keenly.

The scarcity of stepwells in the district of Kutch is not so easily understandable. Having a rather dry and arid climate, one would imagine that it should have a lot of stepwells. There are quite a few, but they are small and absolutely without elaboration and carving, like those all over Saurashtra and northern Gujarat. These minor stepwells are mainly utilitarian well-structures having narrow staircases reaching the water level. Two stepwells, however, are worth mentioning—one in Bhadreśvar town in south-eastern Kutch¹⁰ which is in a completely dilapidated condition; and the other in Madhavpur village (Fig. 244) near Bhuj, the capital of Kutch, which was built about a hundred years ago, as the inscription testifies. The other stepwells in Kutch are of little art-historical importance and therefore have not been discussed in this monograph.

All over Gujarat there is a regular network of interesting and magnificent well-monuments, although antiquity and art-historical merit might differ very much. Very important stepwells are found in northern and central Gujarat as well as in northern and southern Saurashtra. There are more than a hundred stepwells of some importance in this area, some sixty of which are selected and discussed in full detail in this monograph.

In Rajasthan, the earlier types of stepwells are frequently met with. These are, however, of different structure from those found in the Gujarat region. They are more pond-like well-monuments having stepped passages for reaching the water level. The types in Rajasthan combine the architectural form of a structural pond (*kuṇḍa*) with the stepwell proper (*vāpī*), often described therefore as *kuṇḍa-vāpī* or locally *kuṇḍa-vāv*, meaning 'a stepwell-pond'. The stepwells of Rajasthan date between the 8th and 11th centuries; their examples are found in Osian (8th century), Abaneri (late 8th century), Bhinnamāl (8th century), Pipad, Harsha (both 9th century), Vasantgarh, Nādol (Fig. 1) (both 10th century) and Sevāsi (Fig. 117) (11th century),¹¹ and in Bundi (of late mediaeval period) having highly ornamental, non-structural *torāṇa* in between the pillars (Fig. 2) which resemble the *īlikavalāṇa* of the Jaina temples on Mt Abu (Fig. 13) and of the *kīrtistambha* in Kapadvanj.

In Karnataka also stepwells are found, although the major well-monuments are more of a *kuṇḍa*—or *kuṇḍa-vāpī*—type. One example of a stepwell proper with a staircase in a narrow passage leading to the water level is found in Aihole in the temple-compound of the Huccimalligudi temple. It has a square, relatively large well which resembles a pond, *kuṇḍa*, and can be ascribed to the 7th century, which would make it contemporary with the earliest structural stepwell at Dhank in western Saurashtra. Other examples are found in Gudu village dating to the 10th century and in Sudi village, to early 11th century.¹²

There are also some stepwells in Delhi, one of which was built during Tughlak times called Ugrasen kī Baoli (near today's Connaught Place), one built during the reign of Iltutmish (1210-1236) called Gandhak kī Baoli (near Dargah Qutb Sahib) and a later one of 1516 called Rajon kī Bān built by Daulat Khān, a nobleman of Sikandar Lodhi's reign.¹³ Stepwell-like monuments are also found in the fort of Agra¹⁴ (in the Diwan-i-Am quarter) and one in Fatehpur-Sikri outside the main building complex on the western side.¹⁵

3. Chronological outline of architectural activities in Gujarat area

The multitude of stepwells form quite an important part of the building activities of the pre-mediaeval and mediaeval periods in the region of Western India (mainly Gujarat) and even today. Although they are not noticed in many works on the history of art and architecture of Western India, they clearly reflect the development of architectural and sculptural styles and iconographic schools as can be observed in the chronology of the temple

architecture in this region. The earliest structural stepwells built of huge stoneblocks can be ascribed to the 7th century, the period when temple architecture in Saurashtra was at its inception. Its earliest known example is the temple of Gop in the Barda Hill area (in south-western Saurashtra), the dating of which has given rise to a lot of controversy among scholars. The most probable date for the Gop temple is now considered to be the last quarter of the 6th century,¹⁶ which would mean a period after the Gupta rule in Saurashtra which lasted from about 400 to 470 under Candragupta. Formerly some scholars believed that it belonged to the 5th century and was seen as a continuation of the Buddhist rockcave architecture in Uparkot (Junagadh) of the 2nd to 4th centuries.¹⁷

In order to facilitate the understanding of the chronological development of stepwells, it may be useful to trace briefly the chronological development of temple architecture in Western India.

It is believed that the beginning of structural temple building in Saurashtra and northern Gujarat can be traced to the earlier stage of rock-cut architecture during the Kṣatrapa period (1st to 4th centuries A.D.), examples of which are found in Khambalida, Uparkot, Dhank, Sana, etc. in Saurashtra.¹⁸ The Western Indian style of architecture is one of four grouped together under the heading 'Northern style' or 'Nāgara style' in contrast to the 'Southern style' or 'Draviḍa style' of architecture. The reason for grouping these four, namely, the Western, Central, Eastern and Northern styles, together is that they all have a common specific feature—the *nāgara*-type of *śikhara*, the conical-shaped curvilinear crowning of the sanctum (*garbhagṛha*), in contrast to the Draviḍa-type with a pyramidal spire as *śikhara*.

As the Western Indian style does not display a congruous order in itself, it is convenient to divide it into various sub-groups. As appellations according to the royal dynasties were found insufficient for labelling the styles of temple architecture, it is suggested by some scholars that the naming of the various sub-groups according to their regional occurrence is more appropriate.¹⁹ The justification for such a classification is that certain stylistic idioms continued to survive even when dynasties changed. Moreover, the architectural styles often evolved independently of royal patronage. Many inscriptions and other literary evidence testify that ministers, merchants, members of religious communities such as Jaina and Brāhmaṇa, guilds of craftsmen and in many cases the wives of rich citizens sponsored the construction of religious and civic edifices. It is therefore thought more appropriate to use the regional term for denoting a certain idiom of style. Although regional terms are more appropriate, in certain cases it is indispensable to use dynastic names in order to classify a certain idiom of style more clearly, as its appearance can vary from period to period. These variations can be suitably determined according to the ruling dynasties in the various regions. For example, the Māru-Gurjara style swept over an extensive area and prevailed for quite a long period of time, so that it is justified to use the chronology of the dynastic rulers for a closer determination of style-variations. Certain scholars, however, also use sub-regional names for these, like Sāpādalakṣa (for the Sambhar area) or Meḍapāṭa (for the Mewar area). In this monograph therefore the reigning periods of certain kings will be used to fix the dates of some of the stepwells, if they cannot be dated more precisely otherwise.

Within the Western Indian style, four groupings were classified for which new terms were coined by Dhaky.²⁰ These are Surāṣṭra style, Mahā-Māru style, Mahā Gurjara style and Māru-Gurjara style.

The Surāṣṭra style with its moderately-sized temples with little decorative and sculptural ornamentation prevailed in the southern peninsula of Saurashtra from the 6th to about the 10th centuries, mainly under the patronage of the Maitraka and Saindhava rulers. Their main representations are the temples of Gop, Visavada, Sutrapada, Thān, Miani (Fig. 4), among others.

In the area of Marwar building activity is named the Mahā-Māru style (from the term Māru-maṇḍala for the region of Marwar) with its high and moulded terrace (*jagatī*), multi-turreted spire (Laṭina *śikhara*), elaborately sculptured doorframes and idols, an intricately worked *ghaṭa-pallava* motif on pillars and an elongated pediment (*udgama*) with fretwork as their main identifying features. The Mahā-Māru style appeared in the 8th century and lasted till the 10th century having its main representations in the temples of Chittor, Osia, Buchkala, Sikar and others.

This style was contemporary with the Mahā-Gurjara style which prevailed in the regions south of Marwar, i.e., the area of northern Gujarat and upper Saurashtra and Kutch. The temples of this style have a moulded basement (*pīṭha*), a pyramidal roof rising in receding tiers (*phāṃsakāra*) and markedly less sculptural ornamentation in its earlier phase than observed in the Mahā-Māru style. Examples of this early phase of Mahā-Gurjara style are found in the temples of Roḍa and Śāmalāji in northern Gujarat, the Ranik Devi temple (Fig. 5) and the temples in Maithan in northern Saurashtra, some temples in Kutch as in Puām Rāno Gaḍh, in Kotai and Kerakot, and some temples in the Mewar area (Meḍapāṭa) as in Ghanerao, Pali, Unwas, Jagat, Eklingji, Osia, among others.

It is shown that while influencing each other, the two latter styles, Mahā-Māru and Mahā-Gurjara, caused the formation of a fourth style, the Māru-Gurjara, comprising elements of both. The Māru-Gurjara style shows a closely knit uniformity of architectural and decorative designs in the vast region of its spread, i.e., from southern Rajasthan (places like Osia or Pali) to Prabhas Patan with its famous Somanātha temple in the southernmost tip of the peninsula of Saurashtra. The Māru-Gurjara style found its individual expression, free from the distinguishable elements of the Mahā-Māru and Mahā-Gurjara styles, in the 11th century. Its main features are the profusely carved basement (*pīṭha*) with several moulding like *gaja*, *aśva*, and *narathara*, the absence of a terrace (*jagatī*) as found in the Mahā-Māru examples and the dwarf *ghaṭapallava* pillars which are intricately carved. The Māru-Gurjara style can be noticed from the 10th to the 14th centuries, but after the reign of the Vāghelās, the architectural traditions did not receive any new impetus and continued in a kind of stagnant manner. The Māru-Gurjara style was greatly favoured and sponsored by the Caulukya rulers who came to power in northern Gujarat with their capital in Anāhilvad Pāṭaṇ in the 10th century. During this period and in this style the most famous monuments of Western India were constructed, like the Vimala Vasahi on Mt Abu, the Nīlakantha Mahādeva temple in Miani (Figs. 6, 8), the temple group in Kumbharia, the Rudra Mahālaya in Siddpur, the restoration-works in the temple of Somanātha in Prabhās Pāṭaṇ, the pillars of glory (*kīrti-stambhas*) in Vadnagar and Kapadvāñj, the monumental gateways in Jhīñjhuvada and Dabhoi, among others. After a short period of the Vāghelās (from the mid-13th to the end of the 14th centuries), Muslim rulers established themselves as the supreme overlords over large parts of Gujarat. After the 14th century, and particularly after the 15th, the main impact of architecture is that of Islamic monuments, although it appears as if Islamic forms and decorations were superimposed on and adapted to the prevalent 'Hindu' forms. From this period onwards, a change in the structure of stepwells can be observed. The architectural form of a stepwell as a religious (i.e., sacred) and public (i.e., utilitarian) edifice changed and the same form was used to build an edifice for private use, mostly in royal possession, as a cool retreat during the hot summer months. During the entire period of Muslim supremacy in Gujarat, however, in many regions Rajput kingdoms and principalities were still in power, in which the earlier traditions of architecture and sculpture were maintained and continued, but maybe displayed less inspiration and fantasy in execution.

Many stepwells were built during this late mediaeval phase, the tradition of which is continued even up to recent times. The latest stepwell that came to my knowledge was built

about 40 years ago. Even today, the guild of Sompuras, the traditional stone-masons and architects of Gujarat, are building numerous temples according to prescriptions in the classical *śilpa*-texts, canonical texts on architecture. It seems to be an important fact that the Sompuras of Gujarat are one of the few craftsmen who were able to preserve their skill and knowledge of ancient craftsmanship through the ages and are even today able to find enough patronage for exercising their skills, mainly due to the enterprising spirit of the Jaina community.



III Adalaj — Rudabai Stepwell—A.D. 1499.



Characteristics of a Stepwell

1. The term

The term 'stepwell' itself indicates the basic features of architecture and function of this peculiar kind of well-monument, which is to be found in some parts of India, but which received extraordinary monumentality and elaboration in Gujarat only. Both the parts of the term, i.e., 'step' and 'well', characterise its inherent features. A more correct term could be a 'staircase-well' or 'stepped well'. It is actually not the step or rather the steps, but the long stepped corridor leading down to five or six storeys, that is one of the major constructional elements in a stepwell. Both parts of the term combine a statement about the function (i.e., the well) and the typical architectural feature (i.e., the stepped corridor). The term 'stepwell' which identifies this peculiar type of well-monument dealt with here will be retained for the sake of convenience and to avoid misunderstanding by coining a new term. This term was already introduced in earlier writings on Western India and its architecture,¹ and has now established its own specific denotation. The term 'public well' was occasionally used,² which could be applied to a large number of stepwells, but not to all. Therefore a term classifying these well-monuments with regard to their architectural structure, rather than their civic and social use, is preferable. As for the German language, the term 'Treppenbrunnen' was proposed and is in use now, being derived in the same way as the English term from a combination of its two inherent structural parts. Other terms like 'Brunnen' and 'Brunnenanlagen' were also in use in earlier writings.³

In Gujarat, the terms *vāv* or *vāvḍī* or *vāi* are in common use, as in the region of Idar. In some travellers' accounts they are also transcribed as 'bauri' or 'bowrie'.⁴ In Rajasthan as also in the northern region of India around Delhi and Agra, the terms are *bāoli* or *bāuli*.⁵ The Sanskrit term which appears in the classical *śilpa*-texts and in inscriptions is *vāpī*, *vāpī* or *vāpikā*. It is obvious that modern Indian languages derived their terms from this Sanskrit root.

2. The various types of well-monuments

A stepwell is but one type of the various existing kinds of well-monuments in India. A stepwell is the most intricate and, from the architectural point of view, the most complicated one. The most basic form of a well-monument is the simple vertical well, called *kūpa* in Sanskrit (meaning 'pit', 'well') and *kūā* in Hindi and *kūo* in Gujarati. This simple well has no stepped corridor to reach the water level, the water is simply hauled up by buckets. In a stepwell, the vertical well is also called *kūpa* in the classical texts (*kūo* in the local language). The only marked architectural part in a *kūpa* above ground level is the parapet-wall with the arrangement for hauling up water.

A *kuṇḍa* (Sanskrit, meaning 'pit', 'pond'), also called *kuṇḍa* in Gujarati, is an artificially built pond, which is square, octagonal or oblong (Figs. 15 to 21). A *kuṇḍa* can be of various

sizes. In most cases the water level is much below the ground level, so that spirals of steps and staggered lateral staircases lead down to the water level (Figs. 17, 18, 19, 21). This stepped descending passage is mostly embellished with platforms, small shrines, niches and pavilions (Figs. 17, 18, 21). Often *kuṇḍa* is connected with a temple or situated within the temple complex. Either in the middle of the *kuṇḍa* or on one side there is a vertical well (*kūpa*) with a spring which guarantees a constant flow of fresh water. *Kuṇḍa* of intricate architectural structure and sculptural embellishments are found all over Gujarat, for example, in Modhera, called *Sūryakuṇḍa* (Figs. 16, 17, 18), in *Kāpadvañj* (Figs. 20, 21), in Bhuj, in *Iḍar*, among others, as well as in *Karṇāṭaka*.

Taḍāga or *taḍāka* (Sanskrit, meaning 'tank', 'lake') (Figs. 22 to 24) corresponds to the Gujarati term *tālāv* (or *tālāo*) and to the Hindi term *tālāb*. It is a lake blocked with an artificially built dam. Profusely structured flights or stairs enable easy access to the water level. Often the beginning of the staircase is marked by flanking entrance halls placed on a raised platform and embellished with sculptures. Examples of such *tālāv* are found in *Pāṭaṇ* (*Sahasraliṅga tālāv*—Figs. 22, 23), in *Dabhoi* (Fig. 33), *Kaṅkavatī* (Figs. 181, 182), *Bhadreśvar*, *Ahmedabad* (*Kankaria tālāv*) among others. The construction of such artificial lakes is very ancient and goes back to the times of the Mauryan rulers. As the rock inscription of Mt *Girnar* testifies, *Candragupta Maurya* (c 322-298 B.C.) had constructed dams across several rivers and made a tank called '*Sudarśana taḍāka*' near *Girināgara* (which is modern *Girnar*). It was enclosed by embankments (*balikā*) and provided with sluices (*praṇālī*), drains (*parivāha*), etc.⁸

3. The main architectural elements in a stepwell

Stepwells are monuments of which the major parts are underground, in some major examples resembling subterranean temples. In most cases, they are richly carved and ornamented with decorative relief work and sculptures. A stepwell consists of three major constituent architectural parts, namely, the vertical well (*kūpa*) with an arrangement for hauling up water by buckets (*ghaṭa-yantra*—Fig. 138); the stepped corridor leading down several storeys into the earth starting from the entrance pavilion and ending at the water level of the well; and numerous intermediate tower-like pavilions (*kūṭa*) built as open halls (*maṇḍapa*) in the stepped corridor (Fig. 181).

The first pavilion at the entrance (*mukhamanḍapa*) in front of the stepped corridor is normally a simple, open, pillared hall, either square or oblong in ground plan as in *Vikia* stepwell near *Ghumli* (Figs. 121, 123) or cross-shaped as in the stepwell in *Limbhoi* (Fig. 83). Most often the entrance pavilion is on a raised platform to be approached on three sides by steps, the fourth side leading down the corridor. Sometimes the *mukhamanḍapa* is missing and the stepped corridor begins simply with some steps (Figs. 116, 141, 211). In several cases, however, recalling the early feature of the *kuṇḍa* of *Rajasthan* (as in *Osian* or *Abaneri*), the entrance to the stepped corridor is flanked by lateral gate-towers (*pratolī*) leaving the space between them as an entrance, as in the *Rudabai* stepwell in *Adāraj* (Fig. 183).

A flight of steps leads to the lower-lying storey being the first pavilion (or first *kūṭa*). The stepped corridor descends further in a flight of steps to the second *kūṭa*, now with two storeys underground (Fig. 181) and one above ground level (if existing), being in one horizontal line with the entrance pavilion (*mukhamanḍapa*). In this way, the flights of steps proceed downwards into the earth interrupted at regular distances by the tower-like *kūṭa*, from one storey to another, till the water level is reached (Fig. 156). In some of the larger stepwell-monuments, the last pavilion is sometimes six or seven storeys underground.

Occasionally the number of storeys in the pavilion-towers (*kūṭa*) does not increase only by one, but by two, as in the Vikia stepwell near Ghumli (see ground plan II).

Often there is a quadrangular or octagonal pool at the lowest level. This pool is surrounded by a circumambulatory passage with pillars, pilasters and decorated with niches. The area around this pool—open to the sky in its inner space—is alluded to in the ancient *śilpa*-texts by the term *āṅgaṇa* (Sanskrit, meaning 'courtyard'—Figs. 74, 186). In the higher storeys, a low parapet wall consisting of a stone bench and the sloping backrest (*kakṣāsana*—Fig. 187) encloses the open space allowing a view of the pool underneath (Fig. 74). The inner ring is profusely carved. In this manner the negative tower of pavilions coils up storey by storey till it reaches ground level. In numerous stepwells, additional supporting frameworks bar against the thrusts of the side walls. Water-channelling systems, cisterns and troughs for watering animals and bathing-places for men and women are found in numerous stepwells, such as Dāvād (Figs. 44, 46, 47), Bakhor (Fig. 48), Chāraḍa (Fig. 45), Dādā Harīr and Visavada (Fig. 206).

4. Location of a stepwell

A stepwell can be located at three different places—connected to a temple or housing a temple or a shrine inside; within or at the edge of a village, as the Rudabai stepwell in Adāraj, the Chaumukhi stepwell in Chobari, the stepwell in Chatral and Limbhoi, among others; and at the sides of overland-roads or completely outside villages or settlements, as the Ra Khengar stepwell near Vanthali, the stepwells in Kaleśvari ni Nal (Fig. 168), the Bhagat stepwell near Modāsā, the stepwell outside Kāpadvañj, among others. In some of these cases it is not clear whether the stepwells had earlier belonged to a village, which has disappeared.

The stepwells of the first category, being connected with a temple, could be of various types, namely, situated either adjacent to a temple as the Jīva Mehta stepwell in Morbi next to the temple of Kubernath, the Nāgā Bāvā stepwell in Dhrāngadhrā next to the shrine of the Nāgā Bāvā, the Āsāpurī stepwell next to the temple of Āsāpurī, or they could be situated in the temple-compound or in case of an Islamic monument, in the compound of a mosque, as the Jethābhāi stepwell in Isānpur and the Dādā Harīr stepwell in Ahmedabad. The shrines housed in stepwells are mostly built in the opposite wall of the well or located just in front of the well in the last pavilion-tower as in the Sindhvai Mātā stepwell in Pāṭaṇ, the Mātā Bhavāni stepwell in Ahmedabad (Fig. 65) and the Aṅkol Mātā stepwell in Dāvād (Fig. 32), among others.

5. The function and use of a stepwell

The main function of a stepwell is to supply water. In Gujarat, where the climate is such that water is available in plenty only for a few months during the rainy season, ponds, reservoirs, wells and stepwells are the most important civic edifices. Rivers, rivulets, creeks and natural depressions which had been filled with water during the rains, dry up within a few months. Artificially built pools, ponds, reservoirs and tanks also cannot keep their water for a long period. Moreover the water becomes stale after a certain time. Wells and stepwells, sunk deep into the earth and not exposed to heat and sun too much, are the only source for water.⁷ Wells, deriving their water from underground springs, receive a constant flow of fresh water filtered through the earth. This ideal situation, also expressed in the classical *śilpa*-texts,⁸ is often contradicted in practical life. In the last century and the beginning of this, there were numerous cases of the English authorities ordering the closure of wells, because it was observed that insects and other disease-carrying germs were breeding in the well-water

and this was the source of the outbreak of many epidemics.⁹ The reason for the fast spread of diseases was that a well was used in common by large numbers of inhabitants of an area.

Existence of elaborate stepwells testifies to the fact that the utilitarian function of supplying water was held so important that the ordinary wells which would fulfil their function as well were rendered into large monuments, often of high architectural and artistic merit and decorated with rich well-proportioned ornamentation. Stepwells not only supplied water for use in households and for personal needs like washing clothes and bathing, but also for watering animals and irrigation of fields. For this purpose at the rim of the well there is a sluice to receive the hauled-up water and lead into a trough or pond, from where it runs through a drainage system and is channelled into the fields.

The location of stepwells within the village or settlement indicates that the stepwell not only served as a water source, but also as a cool and fresh retreat for the villagers in the hot season. The method of construction with platforms, galleries, ledges for reaching all the storeys in the galleries, stone-benches with sloping backrests, the numerous additional spiral staircases, the occasional existence of circumambulatory passages around the well and also the beautiful ornamentation with sculptures, niches, friezes and designs would allow one to come to this conclusion. This is also testified to by various accounts of travellers coming to this part of India, for example, James Tod saying that the stepwells '... in hot weather form delightful retreat for the chiefs and their families'.¹⁰

The position of stepwells outside the settlements and on overland-roads and cross-roads indicates that these underground water-monuments were frequented by travellers and caravans as resting places.¹¹ One can observe that on the major military and trade routes from Anāhīlvāda Pāṭaṇ in the north to the seacoast of Saurashtra at Somanāth Pāṭaṇ, via Muñjpur, Jhīñjhuvāda, Viramgām, Vadhvāṇ, Saela, Dhandhalpur, Chobari, Ānandpur, Sardhar, Gondal, Vīrpur, Jethpur, Junāgadh, many important stepwells are located. For caravans and individual travellers, a stepwell was the end and aim of a day's journey, where one could spend the night in cool, comfortable surroundings and also where there would be no need to search for water for men and animals. Stepwells were used as suitable and cool places not only for a night's halt, but also for resting during the uncomfortable and suffocating heat of a summer day. The scarcity of trees and vegetation in this area made caravans and travellers proceed only during the evening and night hours. It is known that the great trade route through the Gangetic plain was already of importance during the times of the Mauryan empire, as the road was marked by milestones and comfort was provided by wells and rest-houses at regular intervals.¹² As MacMurdo, who had extensively travelled in Saurashtra, remarks:¹³ 'We passed two Boweries of very ancient structure; but originally intended for the accommodation of travellers.' The comment to the term 'Boweries' alludes to the social aspect of a stepwell, that it is '... furnished with a descent to the water by means of long flight of steps and with landings and loggie where travellers may rest in the shade'. The religious significance of a stepwell with a temple or shrine is also referred to by MacMurdo in these words: 'The liberal practice (which) is so universal throughout India has its rise (I believe) in a religious motive ...'.¹⁴ The religious aspect of a stepwell will be discussed in a subsequent chapter.

Tod sees stepwells mainly as a profane and utilitarian monument as many of his contemporary travellers and writers on Western India did. He remarks: 'We may include in the domestic structures those useful and ornamental excavations called baories, which serve both as reservoirs and abodes in the hot season.' He also observed that the walls have to be built strong enough in order to sustain the external pressure of the soil around.¹⁵

Another interesting feature of a stepwell, well or pond is provided by the soil ingredients. The minerals, salts or other substances of the earth dissolved in the water of the well often have the quality of brightening or strengthening materials, either cloth like satin, silk or cotton, or metals. It is said, for example, in the *Mirat-i-Ahmadi*¹⁶ that 'cotton-clothes,

embroidery and satin' increase 'in lustre and colour', if they are washed in the wells of Kankaria tank in Ahmedabad. When in the summer months the tank dries up, water from nearby wells is poured into it and mixed with the mud at the bottom, then it regains its brightening quality. Of another stepwell, near Una (in southern Saurashtra) called Sari-stepwell, it is said¹⁷ that its 'water adds to the temper and sharpness of swords. The Una swords are hence famous in the land.' During fieldwork in Kāpaḍvañj a reliable native informant told me that the stepwells there were formerly very famous for the mineral quality of their water. I was informed that formerly the silk weavers used to bring their products to Kāpaḍvañj to wash in the stepwells in order to brighten their colours.

6. The stepwell as a shrine

A stepwell combines a utilitarian (being a source of water) and social function (being a meeting-place for communication for men while resting and for women while drawing water) with satisfying the spiritual needs of the people. Even today, stepwells are not only edifices of domestic and social use, but are believed to be abodes of various spirits of life-giving powers. Just as any other godlings, ghosts or spirits, the stepwell-dwellers are believed to give progeny, fertility, growth and wealth if propitiated and worshipped in the prescribed manner. Many stepwells are closely connected with a temple, situated as they are in the temple compound itself. Jaina literature¹⁸ and some inscriptions¹⁹ say that along with a temple a stepwell was also constructed. This is further corroborated by the actual examples of a shrine within a stepwell, as in the Mātā Bhavānī stepwell in Ahmedabad, the Aṅkol Mātā stepwell in Dāvād and Sindhvai Mātā stepwell of Pāṭaṇ. These shrines are even now frequented by worshippers who do their religious rites as they would do in a temple or shrine.²⁰

The closeness of a water place is prescribed for the location of a temple in canonical scripture, for example, when it is said: 'In places without tanks, gods are not present. A temple therefore should be built, where there is a pond on the left, or in the front, not otherwise.'²¹ Also the *Tantrasamuccaya*²² suggests the installation of gods at lovely places like *īratha* (sacred bathing-ghats on the bank of a river), banks of rivers and lakes, and on the seashore. In case water is not available either in natural or artificially built tanks or ponds, jars filled with water represent the water place.²³

The numerous myths connected with water show that from ancient times water was considered as the prime source of life. Water is not only the most essential commodity of life in hot and arid areas, but is generally considered to possess the innate powers to protect and maintain life and growth. The use of water as an essential part in sacrifices, the connection of water places with fertility rites (the offering of grains at a tank)²⁴ and mother-goddess worship (the names of stepwells commencing with Mātā, meaning 'mother', i.e., 'mother-goddess', the high merit that a person receives for digging a well or stepwell, support this idea.

In Vedic times the rivers were compared to a cow, the symbol of wealth, fertility and prosperity.²⁵ The metaphor is consequently visualised as the waters becoming swollen like pregnant cows which had previously been sterile²⁶ or as the imperative order to Mitra and Varuṇa: 'Yoke the waters like a cow to the yoke.'²⁷ In this connection it is very interesting to note that a *pariśiṣṭa*-text describes that during the consecration ceremony of a well or pond, a cow has to be decked and then brought into the water of the well.²⁸ Only after this ceremony, the water place becomes sacred. Belonging to the same train of thought is the identification of water with milk, the product of the cows.²⁹

The simile of the waters with the growth- and wealth-bestowing cows implies that the waters are seen and praised as goddesses. They have the ability to cleanse and purify the worshipper from moral sins³⁰ and to bestow long life, wealth and immortality.³¹ As goddesses,

they are addressed and worshipped as mothers, as the mothers of all beings, mobile or immobile.³²

The power of fertility is not only innate in natural waters like rains, rivers and lakes, but also in all artificially kept waters like an artificial lake, pond, well or stepwell, or even a jar of water. Water itself came to represent the essence of the mythical waters issuing from Indra and Varuṇa.³³

A simplification of the abstract Vedic ideas is found in the popular belief that wells, when worshipped by women who have less milk to suckle their children, will bestow plenty of milk again on them.³⁴

By constructing ponds, wells and reservoirs, it is said, men have actually realised the potential of achieving the powers described earlier. Their construction was held as of higher merit than even the performance of a sacrifice according to the Vedic and post-Vedic prescriptions.³⁵ Charitable deeds, as in the building of a public well or stepwell, brought more merit than the performing of a sacrifice to please the gods, which is only for one's own benefit. It is said in the *Viṣṇudharmottara Purāṇa*,³⁶ for example, that 'One who digs a well (for the public) has (the consequence of) half of his sins absolved when the water has begun to flow forth; one who dedicates a pond is forever happy (free from thirst) and attains the world of Varuṇa.' Many more literary evidences³⁷ show that charitable works for the use of the public came to be regarded as more meritorious than sacrifices and offerings to the gods and gifts to the Brāhmaṇas.

Digging of a well or construction of a pond gives the possibility of obtaining the life-bestowing water, but the act of construction alone does not guarantee its permanent and everlasting flow. To attain this aim, a sacrifice is to be offered to the water, i.e., the water-god or goddess. Such rituals are still observed, as was seen at the Mīnal stepwell in Virpur, Saurashtra, in 1977, when women and girls went to the stepwell with offerings to Mīnal Devī, the patron-goddess of this stepwell. They offered gifts of coconuts, grains and milk to the goddess in order to obtain a good husband, progeny and prosperity. We observed that the image was actually a sculpture of Viṣṇu Śeṣaśayin which was in a broken condition and not of any goddess. The figure of Viṣṇu was mistaken to be that of Mīnal Devī, Viṣṇu's upraised arm to be her child in her arms. Watson³⁸ also observed a similar incident at the Hani stepwell in Dhandusar, Saurashtra. The folksong connected with Mādhā stepwell in Vadhvān,³⁹ Saurashtra, illustrates clearly this idea that the constant flow of water is to be secured by a sacrifice. This song is the crystallisation of the general belief that human sacrifice is the most potent, in exchange for which life-bestowing powers are yielded for the benefit of the community.

Self-sacrifices, with the same intention, were recorded in Gujarat in earlier times.⁴⁰ Nowadays blood from a finger of a man could take the place of the actual human sacrifice.⁴¹ Minor offerings to please and honour *jaladevī*, the goddess of water, are copper-coins and betelnuts, and flags hoisted near the well,⁴² as a popular continuation of the prescriptions in the *śilpa*-texts for constructing flagpole with flag near the stepwell.⁴³

According to popular belief in Gujarat a mother-goddess called Vāruḍi or Vāruchi Mā, also Vāreodi Aī (and later on Sanskritised to Varadhayinī or Varadākṣiṇī) is believed to reside in a stepwell, or also on the coast of the sea, or bank of a river or pond.⁴⁴ She is supposed to be a goddess of fertility and worshipped to bestow good crops. It is also interesting to note that young brides or couples immediately after marriage go to a well or stepwell to do homage to the water-deity so that they might receive a boon of fertility.⁴⁵ Of a similar significance is the rite performed by a young mother after the birth of her first son. This rite purifies her, as a woman in child-birth is held impure, and secures longevity for her child. This ceremony starts with a procession in which the young mother is taken out to the well or tank, where she installs *jaladeva* and *saptamātṛkā*, the seven mother-goddesses. She brings offerings of foodstuffs and

fetches water. Without propitiating *jaladeva* in this way, she is not entitled to fetch any water. Such rites are common to all Hindu castes that believe in the impurity of a woman after childbirth,⁴⁶ especially among the Mer community in the Barda Hill area⁴⁷ and the Kanbis, a pastoral community of Saurashtra.⁴⁸

In Gujarat the cult of the mother-goddess is very intimately connected with water or watering places.⁴⁹ It is said, for example, that at the festival of *navarātri*, the 'nine nights' sacred to the Great Goddess, Varuṇa, the god of the waters, is to be invoked and worshipped after the initial worshipping of Gaṇeśa during the household rites.⁵⁰ A clear indication of the association of stepwells with mother-goddess worship can be discerned in the fact that many stepwells are shrines sacred to one or other aspect of the Devī or Mātā. This is revealed in the names of stepwells, the actual monuments and those referred to in literary sources. Examples of this are the Mātā Bhavānī stepwell and the Āsāpurī stepwell (both in Ahmedabad), the Sindhvāi Mātā stepwell (in Pāṭaṇ), the Āṅkol Mātā stepwell (in Dāvād), Mātrī stepwell (in Kaṅkavatī) and the Śikotarī stepwell (in Peṭlad, Kaira district),⁵¹ etc.

There are many inscriptions which tell of ladies of the royal houses or of high-class families who were patrons for building a stepwell, for example, Rānī Rudadevī, wife of the Vāghelā chief Vīrasimha of Dandahideśa, during the reign of Maḥmud Begarah (1458-1511) who had built the stepwell in Adālaj in the year v.s. 1556, corresponding to A.D. 1500,⁵² Bāi Harīra, also known as Dādā Harīr, the 'general superintendent at the door of the Harem of the King (Maḥmud Begarah)' who 'got a stepwell built' in order to please God 'and for the benefit and use of the 84 lakhs of the various living beings', in the year corresponding to 1499 (in Ahmedabad);⁵³ Mīnāl Devī, mother of Jayasimha Siddharāj (1094-1144), who built the Mīnāl stepwell in Vīrpur, Saurashtra, in v.s. 1150 (i.e., A.D. 1095);⁵⁴ and Udayamatī, consort of Bhimadeva I, who patronised the building of Rānī stepwell in Pāṭaṇ.⁵⁵ One other inscription is important, not only from the point of view of female patronage, but also giving evidence of the use of a stepwell as a *tīrtha*, a sacred place for worship and pilgrimage. It says:⁵⁶ '... She (Māi Śrī Kapura) with her victorious son Saha Śrī Sartanaji, caused a *tīrtha* to be made called Tārā Vāpī for the merits and welfare of her son Tarachanda, his eleven wives (who had become *satī*) and his sons. May there be happiness. May this pleasant and propitiating pure *tīrtha* in the form of a *vāpī* with a large *maṇḍapa* endure as long as sun and moon exist. May there be wealth, Śrī.'

In many stepwells a shrine is installed. It is either at the far end at the back of the well-shaft itself, or more often on the platform immediately in front of it, i.e., in the last pavilion-tower of the stepped corridor. Some examples of these are the Mātā Bhavānī stepwell in Ahmedabad, the Sindhvāi Mātā stepwell in Pāṭaṇ, the Āṅkol Mātā stepwell in Dāvād. In the Jñāneśvarī stepwell in Modhera and the Gaṅgā stepwell in Vaḍhvān, the small shrine is not installed at the far end, but in the first pavilion. In other cases, without an actual shrine, the sacredness of the well-part is indicated by a sculptured row of shrines, or niches indicating shrines. An important example is the stepwell in Khedbrahmā, and the stepwell in Sāthamba, where the wall in the well is fully sculptured. This tradition of 'Hindu' origin was continued during the Muslim period, as seen in the Dādā Harīr stepwell. One of the major decorative features is the niches filled with an intricately carved scroll-design, in the back wall of the well, one each on every storey.

The association of mother-goddess worship with watering places is age-old and perhaps forms an intrinsic feature of the mother-goddess cult. It is said that the *śaktī tīrtha*, the sacred places of the female power (*śakti*), are necessarily combined with sacred ponds (*kuṇḍa*).⁵⁷ Since ancient times the association of the mother-goddess in the form of female nude with a water-animal, i.e., the alligator, seems to have been conceived.⁵⁸ This connection of the mother-goddess with the waters could be traced back to some passages in the Ṛgveda. In many verses of this text, the waters are praised as a goddess, in their anthropomorphic form they are

apsaras, i.e., heavenly beauties, and they are seen as mothers or young wives.⁵⁹ The belief in the purifying and protecting powers of the waters is related to the domestic ritual, in which water is placed near a woman in child-birth.⁶⁰ This practice is continued to the present time.

After establishing the connection of the mother-goddess cult with the element water, it is interesting to see how local belief worked to maintain a continuity in the flow of water and, through this, the innate powers of the waters in wells, stepwells and ponds. It is known that people make various sorts of vows at watering places, mostly for progeny, fertility and wealth, and on fulfilment of their wishes they give the promised offerings to the water-deity. These could be grains, rice, fruits, milk, animal-sacrifice or even human sacrifice or self-sacrifice.⁶¹ The great goddess, who is believed to be residing in the waters, is propitiated in the most potent way by a sacrifice of human life. There is a legend connected with the Sahasralinga Tālao that a human sacrifice was needed in order to regain water in this tank which dried up due to a curse.⁶² The folksong of Mādhā stepwell in Vādhvāṇ is another testimony to this practice.

The belief in strength and valour that may pass from the living body of a human to a man-built edifice for its durability, effectiveness and longevity was deep-rooted in ancient times. The Yajurveda refers to human sacrifices being offered in order to strengthen such vulnerable points as fortifications, city-gates and dams.⁶³ For this, the victims had to be buried in the foundation of the new construction. In the Ṛgveda there is a legend of a human sacrifice to Varuṇa.⁶⁴

It is also interesting to note that a site near the water, either river, pond, well or stepwell, was the obvious place for the self-immolation of a woman after her husband's death (*satī*), as related in folksongs and legends, travellers' accounts and inscriptions. Francois Bernier⁶⁵ observed an incident of a woman sitting on a pile of firewood in a dry pond. An inscription found in an ancient well mentions the self-immolation of three widows on the bank of the river Sabarmati.⁶⁶

During the installation and consecration ceremony of a stepwell, its association with the water-god Varuṇa and fertility-gods like Viṣṇu and Nārāyaṇa becomes at once obvious. The main intention of the ceremony is the dedication of the stepwell to public use as a charitable act. The earliest account of the procedure of dedication of a well or tank in literature is found in the *Saṃkhyāyana Grhyasūtra*.⁶⁷ Varuṇa plays an important role in this ceremony, as the donor (of the well) has to bring offerings to this god. During the whole ceremony he is invoked in several verses from the Ṛgveda. Also the gods of the directions are to be propitiated. A later text⁶⁸ gives with slight variations the same prescriptions, adding that sacrifices are to be made to gods Agni, Soma, Varuṇa, Yajña, Ugra, and others. The presence of a cow makes the water sacred. Other references to the consecration of wells, ponds and stepwells are found in Paurāṇic texts which came to be held as the most authentic ones to be followed.

In the description of the consecration of a tank, pond or well in the *Agnipurāṇa* (Chapter 64),⁶⁹ it is clearly said how close a connection there is between Varuṇa and the element water. The pond or well being the receptacle for water receives through this ceremony the same sacredness as the water itself. In the consecration ceremony described in this text, Varuṇa figures as the main idol. His image is made which—having had life bestowed through its principal *mantra*—consecrates the water-monument as he is immersed in the water of the pool, pond, stepwell or tank. The iconographic description of the Varuṇa-idol as given in this text is as follows: It may be of gold, silver or precious stones. It should have two arms and be seated on a *haṃsa*, the goose, the right hand being in the *abhaya*-posture and the left carrying a snake-noose. Snakes should be represented around him. The most important part of this installation ceremony is the placing of eight pitchers filled with different types of water in the eight main cardinal directions, i.e., in the east filled with sea-water, in the south-east with water from the river Gaṅgā, in the south with rainwater, in the south-west with streamwater, in the west with riverwater, in the north-west with water from a male river,

and in the north with juice of plants. Not only in the location of the water-pitchers do the directions play a basic role. The gods of the directions, Mahendra, Agni, Yama, Nairṛti, Varuṇa, Vāyu, Kubera, Iśāna, along with some other gods like Dhātṛ, Rayaspoṣa or Jaleśvara, are to be propitiated dutifully with oblations (*homa*). Then the image of god Varuṇa is carried around the village and thereafter immersed in the pond. A sacrificial post—driven into the centre of the bed of the pond, stepwell or tank—marks the sacred spot. Finally, at the end the text declares that the consecration of a water-reservoir or pool brings more religious merit for a person than performing the *aśvamedha*, the royal horse sacrifice. This last statement becomes more meaningful considering the climatic and environmental conditions in Western India, where water, being the vital necessity of life, growth and fertility, is in great demand throughout the year.

Later texts⁷⁰ describe a more or less comprehensive ceremony of the consecration of wells, stepwells, ponds and tanks, which are mainly based on the *pariśiṣṭa*- and *purāṇa*-texts.⁷¹

The significance of Varuṇa and Viṣṇu, in his form as Nārāyaṇa and Śeṣaśāyin, the mother-goddesses, *saptamātṛkā*, and aquatic animals like fish, snake, tortoise, *makara* and others with stepwells is alluded to in the ceremonies of consecration of a stepwell and will be explained in more detail in the chapter on iconography.

Inscriptions and Śilpa-Texts on 'Vāpī'

In rendering, the Sanskrit word *vāpī* (f.), also occurring as *vāpi* (f.) or *vāpikā* (f.), is normally translated as 'a well, tank, pond, reservoir of water', as may similar water-monument. The standard Sanskrit dictionary¹ and also the *Śabdakalpadrūma*² confine themselves to this basic meaning of the term. In some specific cases, the more descriptive phrase 'a well approached by a flight of steps' is used, as it is also mentioned according to Maheśvara's commentary on the *Amarakoṣa*³ that *vāpī* denotes a well with a flight of steps in contrast to a *kūpa*, which means an ordinary well. The *Jalāśayotsargatattva* of Raghunandana⁴ mentions four types of reservoirs built by man: *kūpa*, *vāpī*, *puṣkariṇī* and *taḍāga*.

The uncertainty about the actual meaning of *vāpī* cannot be settled easily. The difficulty is that the context often does not help in defining exactly what a *vāpī* could be. It is clear, however, that a water-monument connected with a well or reservoir is implied. A more specific limitation on the kind of water-monument can only be surmised. The possibility is that the word itself does not denote a specific well-monument, but is used in connection with various types of water-structures, be it an ordinary well, a tank, a pond, or an elaborate well with flights of steps, depending on the accurateness of the writing and the context. Another possibility is that the meaning of the word has changed: in earlier times only denoting a well or any similar kind of simple watering place or reservoir, but in later times having received a more specific denotation of a 'well approached by flights of steps'. When in a text or inscription the word *vāpī* is set in contrast to other types of water-monuments, like *kūpa* (ordinary well), *kuṇḍa* (small pond), or *taḍāga* (big pond or lake), we can believe that *vāpī* in this case means a different type of well-monument, different from those mentioned, i.e., an elaborate well-construction with flights of steps, a stepwell.

According to the Sanskrit dictionary, the word *vāpī* is derived from the root *vap*,⁵ i.e., 'to sow, to strew, to scatter, to heap or dam up', and *vāpī* therefore is 'the pond made by scattering or damming up earth'.

The commonly used Gujarati word, *vāv* or *vāvḍī*, is found in inscriptions of the late Middle Ages attached to or found in stepwells, as by that time Sanskrit which was generally used in inscriptions earlier was often replaced by the local language. From these inscriptions about the construction and patronage of stepwells which are still existing,⁶ we can conclude that *vāv* is only applied to a stepwell proper, although it happened that people would understand any kind of well by this term. In Rajasthan and also in Northern India⁷ in the region of Delhi and Agra, the term *bāoli* is in common use, and in the city of Bombay the term *bāvḍī* is used. The term even spread up to the hill-region of Jammu, where at the archaeological site of Gool village (210 km north of Jammu), a large number of *bāuli*⁸ (in the report translated as 'springs') were found in which there was sculptured work, including representations of gods and goddesses.

References to *vāpī* can be found in inscriptions, copper-plate grants and stone inscriptions, and in Sanskrit texts on architecture (*śilpa-śāstra*). The inscriptions dating from the first centuries A.D. are earlier evidence of stepwells than the texts which are available only after the beginning of the second millennium.

One of the earliest testimonies to the antiquity of the *vāpī* is found in the stone inscription of the Kṣatrapa ruler Rudrasimha which was discovered in Gunda village in Jamnagar district, dated A.D. 181.⁹ It says that during the reign of Rudrasimha, the army leader Rudrabhuti had dug and constructed a *vāpī* in the village of Rasopadra for the benefit and comfort of all living beings. From the textual context, we cannot know definitely what kind of well-construction is meant here by *vāpī*. Considering that it must have been an important act to dig a *vāpī*, because the stone inscription deals with it, and that a high administrator of the Kṣatrapa king was engaged in building it, this *vāpī* cannot be a normal or simple well which is to be found in each and every village, but must be a more elaborate structure. We can already think of the existence of stepwells in these early times, as during Asoka's reign 'flights of steps' are mentioned in connection with a well.¹⁰

The copper-plate grants of the Valabhi kings Dhruvsena I and Dharasena II are additional evidence mentioning a *vāpī*.¹¹ These inscriptions affirm that the Valabhi kings granted a village or an area of land along with a *vāpī* to a *brāhmaṇa*. In all inscriptions, the term *vāpī* is translated as 'irrigation-well'. As a *vāpī* is specially attributed to in the grants, I am inclined to believe that more than an 'irrigation-well' is meant. Such wells exist in all the villages, and it seems to be out of place that the grants should refer to these only, especially because in some instances these wells even received specific names. In a number of inscriptions of the Maitraka period, the donated stepwells bear names of trees or plants. The Amrīlika *vāpī*¹² could derive its name from the closeness of either an *āmalaka* or *āmalakī* (i.e., Emblic Myrobalan, in Gujarati called *āmālī*) tree, and Nimba *vāpī*¹³ from the *nimba* (i.e., the nimba tree or Azadirachta Indica) tree. Sihadatta's *vāpī* named Mochanika¹⁴ could derive its name from the *moca*-plant, and the Pippala *vāpī*¹⁵ from the *pippala*, the fig tree. About other names, like the Duśa *vāpī*¹⁶ or the Vatabhalirika *vāpī*,¹⁷ it is not clear what their names imply. Some names definitely point to the owner of the stepwell, like the Bhappabhaṭa¹⁸ *vāpī* or Sihadatta's *vāpī* mentioned earlier. In one inscription the specifying term *jamala vāpī*¹⁹ is used. The Prakrit term *jamala* corresponds to the Sanskrit *yamala*, i.e., 'twin, paired, doubled'.²⁰ The meaning of this term in connection with a stepwell is controversial. It is translated as 'double cistern' by E. Hultsch.²¹ Considering it to be a stepwell, *jamala vāpī* could either mean "a pair of *vāpī*", i.e., two such monuments, or a stepwell of the *dvimukha* type, i.e., with two entrances, which will be explained later.

Inscriptions found in southern Gujarat and Rajasthan bear evidence of the existence of stepwells in these areas too. The inscription of the Rashtrakuta prince Govinda IV found at Cambay (dated śaka saṃvat 853)²² gives a further clue to the use of a stepwell in earlier times. The profane function of supplying water implied a second, i.e., social and charitable, dimension. As it is indicated here, the grant of villages and of a large number of gold coins is made to the *brāhmaṇa* not only for meeting the expenses of their ritual duties, but also for repairing temples and for building institutions like alms-houses (*sattra*), places for the supply of water (*prapā*), rest houses for travellers (*pratiśraya*), . . . and stepwells (*vāpī*), wells (*kūpa*), ponds (*taḍāka*).

Even today stepwells are not only domestic and functional buildings, they also have a religious significance. Many stepwells are closely connected with a temple, situated in the temple compound or having a small shrine inside. In some inscriptions, this religious aspect of a stepwell is alluded to, when it is said that a stepwell was built and consecrated along with two temples (inscription at the stepwell at Roho, in northern Gujarat).²³ One inscription found in village Sadadi,²⁴ dated v.s. 1654, corresponding to A.D. 1597, mentions that a pious lady of Jaina faith constructed in honour of her dead son Tarachanda and his eleven wives who became *satī*, a *tīrtha* in the form of a *vāpī*. Very interesting in this connection is the use of the term *tīrtha*, meaning a religious bathing-place, which implies that this *vāpī*, newly built, was meant as a spot for religious worship during a pilgrimage.

It seems that a stepwell in its function of supplying water protects also growth and fertility. Therefore it is not surprising to mark that a large number of stepwells are connected with the cult of the mother-goddess. This is not only revealed in the names of the stepwells mentioned earlier, but also in the iconography of the sculptures decorating the niches and friezes in a stepwell. Nearly always *saptamātṛkā* (the seven mother-goddesses), depictions or symbolic representations of one or the other aspect of the mother-goddess, like *Āmbā*, *Durgā*, *Mahīṣamardīnī*, and depictions of a pregnant woman, a woman with child or giving birth to a child appear in the decoration of a stepwell. In this connection it is interesting to observe that girls and young women go to a stepwell to worship an image of the mother-goddess in order to secure progeny and fertility. In this light, the inscription engraved on pillars of the *sabhā-maṇḍapa* of the temple at Jagat, Rajasthan,²⁵ attains greater significance. This inscription refers to the perpetual worship of the goddess *Āmbā Devī* by a person who is said to reconstruct and conserve the stepwells (*vāpī*), wells (*kūpa*), tanks (*taḍāga*), gardens and buildings.

Architectural texts of the northern as well as the southern tradition contain references to *vāpī*. In both cases, however, the chapters concerned with this type of water-monument are short and do not give very detailed information about construction methods, shape, ornamentation, location, etc. Whatever information is given is collected and analysed in this chapter. The texts being studied in this connection are: *Samarāṅgaṇa-Sūtradhāra* (SS), *Aparājītapṛcchā*, *Rājavallabha*, *Vāstusāra* of the northern tradition and the *Mānasāra*, *Mayamata*, *Viśvakarma Vāstusāstra* of the southern tradition. From among these texts, it seems that the SS²⁶ is the earliest work on the subject to which we somehow can ascribe a rather definite date of compilation. This work was put together by *Sūtradhāra Samarāṅgaṇa* under the rule of the *Paramār* King *Bhoja* of *Dhara* (1018-60).²⁷ The *Aparājītapṛcchā* is obviously a later composition, as it borrows much from the SS. Through comparison of the descriptions, in the text and actual datable monuments, *Vora* and *Dhaky* conclude that the date of its compilation falls in the latter half of the 12th century.²⁸ Both the *Mānasāra* and the *Mayamata* seem to have been inspired by the same kind of earlier source. Both the redactions are very close to each other and it is clear that both come from the extreme south of India.²⁹ It seems that both were compiled during the peaceful and culturally rich period of the *Chola* rulers. To the *Mayamata* a date earlier than the 11th century can be ascribed,³⁰ although intertextual evidence could point to a later date in comparison to *Mānasāra*.³¹ The *Viśvakarma Vāstusāstra* is a compilation of the southern tradition. Although *Viśvakarma* is known as the 'god-architect' of the northern people, and the *Viśvakarma* school of architecture represents the northern, i.e., the *Nāgara* school, the name *Viśvakarma* was also adopted in the South and was applied also to works on architecture of the southern or *Draviḍa* school.³²

The SS, the *Mayamata* and *Mānasāra*, considered to be the earlier texts among those dealt with here, do not give any information regarding the method of construction, formation or ornamentation of a *vāpī*. No separate chapter devoted to the characteristics of water-monuments, like *kūpa*, *vāpī*, *taḍāga*, as in later texts, is found. All three texts only contain stray references to *vāpī*, and from these it is not clear whether the *vāpī* indicates a stepwell proper or occasionally another type of water-monument. From the references, it seems more likely that a pond rather than a monumental stepwell is meant. Another feature which turns out to be characteristic of a *vāpī* from these very texts is its being a monument for leisure and pleasure.³³ It is said, for example, in SS, Chap. III, vv. 26-27, that palatial buildings have a *vāpī*, artificial wooden mountains (*dārugiri*), paintings (*citra*), flower-streets (*puṣpa-vīthi*), and manifold parks (*vipināśraya*). In the SS, a *vāpī* cannot signify a monumental well-construction with flights of steps, as it is indicated that the middle of buildings is occupied by a *vāpī*. It is said:

Chap. XVIII, v. 20: In the middle (*madhya*) of the buildings (*śālā*), there generally is what is called a *garbhagrha*, that is the *vāpī* and lotus pond (*puṣkariṇī*) which are covered (*samachanna*).

Again, the location within the house gives an indication of a pond-like structure for *vāpī* and the setting of it parallel to *puṣkariṇī* alludes somehow to an aspect of pleasure. Similar information is given in Chapter XV dealing with 'The king's palace':

Chap. XV, vv. 29-30: Creeper-bowers (*latāgrha*) where creeper-halls (*latā-maṇḍapa*) are attached, the wooden mountains (*dāru-śāila*), the flower-streets (*puṣpa-vīthi*) are well-constructed (in a king's residence) . . . [this part is unclear].

v. 31: The *vāpī* and drinking-house (*pāna-grha*) are generally made in the section (*pāda*) of Varuṇa, and the treasure-house (*koṣthagāra*) is generally in (the section of) Asura and the weapon-house (*ayudha-mandira*) in (the section of) Śoṣa.

The location along with the creeper-bower, the drinking-house and the treasure-house within the king's residence point to a small size of a *vāpī*, as a monumental structure would not find enough space within a palatial compound.

Further information regarding the location of a water-place given in the above verses is important and needs some more elaboration. The entire complex for the construction of a sacred or profane building is seen as a huge idealistic quadrangle which is further divided into 64 or 81 square sections.³⁴ Some texts clearly mention that the division into 64 is suitable for shrines, temples and other sacred places, whereas the division into 81 is applied to construction of houses. In this square limitation of the ground the *vastupuruṣa*, the visually depicted identification of the cosmic order with the human body, is conceived as forming the *vastupuruṣa-maṇḍala* with 64 or 81 squares. 45 gods (*devatā*) occupy the body of *vastupuruṣa*, of which 32 are stationed along the perimeter of the *vastumaṇḍala*. These are therefore called *prakāra devatā* or *pāda devatā*.³⁵ Then follows the inner group of 12 gods surrounding the central section which is reserved for Brahma. The *pāda devatā* are regents of the *nakṣatra*, i.e., the lunar mansions, and are led by the guardians of the four directions, the *lokapāla*, Mahendra in the east, Yama in the south, Varuṇa in the west and Soma in the north. They are stationed in the middle of each side, whereas the corners are occupied by the regents of the intermediate directions, the *aṣṭadikpāla*, beginning from the east: Indra, Agni, Yama, Nairṛti, Varuṇa, Marut, Kuvera, Īśāṇa, according to the explanation given by Stella Kramrisch.³⁶

Varuṇa is not only protector of the west, being one of the *aṣṭadikpāla*, but generally regarded specially in Pauranic mythology as the god of the ocean and the supreme lord of rains and water. Varuṇa is one of the oldest Vedic deities, often styled as 'king of the gods', in his function as supreme deity is described as upholding heaven and earth.³⁷ Although he is not generally regarded in the Veda as the god of the ocean, he is often connected with the waters, especially the waters of the atmosphere, and once he is called *sindhu-patī*, i.e., 'lord of the rivers'.³⁸ Varuṇa's inherent connection with the waters is in later mythology popularised and he is invoked for sending rain by *mantra* and *pūjā* in seasons of drought and worshipped by fishermen before they go out to sea.³⁹ His supremacy over the element water gave him various other descriptive names: *jalapati* (lord of water), *yadāhpati* (lord of aquatic animals), *amburāja* (king of water), *pāṣī* (bearer of the noose), his iconographic sign, besides his riding on a *makara*, the sea-monster.⁴⁰ In the *Agnipurāṇa*, he is described as god of the ocean and in the *Kaśyapaśilpa* he is conceived as Viṣṇu-nārāyaṇa and *mahā-jala* or *jalādhipa*, i.e., lord of water.⁴¹

The placing of a stepwell, well or other water-monument in the quarter of Varuṇa seems to be an intrinsic recognition of his being the Lord of Waters, who is able to bestow water even

in the season of drought. The *Agnipurāṇa*⁴² explicitly manifests that Varuṇa is revealed in the form of water. The *SS*, Chapter XV, v. 31, is a clear indication for this, stating that the west, the region of Varuṇa, is the most suitable direction for digging a well or constructing a water-edifice. It is interesting that Ram Raz,⁴³ who was one of the first scholars to study the ancient *śilpa*-texts, also mentions that in a town or village, there should be at least two tanks or reservoirs, one of which should be in the south-west, which could be identified as the region of Varuṇa.

In opposition to this description, however, it seems that the South Indian texts had followed a different tradition. In the *Mayamata*,⁴⁴ for example, it is said that a stepwell should be situated in the quarter of Īśa which is corresponding to the north-eastern direction according to the above-mentioned concept. In Chapter XXIII, v. 86 of this text, it is said:

The hall for listening to the *dharma* (*dharma-śravaṇa-maṇḍapa*) should be constructed in (the quarter of) Soma (*saumya*), the *vāpī* is connected with (the quarter of) Īśa, the well (*kūpa*) with that of Āpavatsa.

Two other references give less definite indications for the location of a water-monument, saying that wherever one needs a water-place, one should construct one. Following are the lines:

Chap. IX, vv. 87-91 a: The stable (*gośālā*) should be in the south, the flower-gardens (*puṣpa-vaṭī*) in the north, the dwellings for the ascetics (*tāpasavāsa*) favourably in the eastern region or in the west.

Wherever a water-place (*jalāśaya*) is desired, (there should be) a *vāpī* and a well (*kūpa*). The settlements of the Vaiśya are in the south, that of the Śūdra all around . . .

and, while dealing with 'The other monuments' (*itara-sthāna*):

Chap. IX, v. 92: The house of the tenants (*veśa-sthāna*), the *vāpī*, the well (*kūpa*), the pleasure-garden (*rāma*) and the pond (*dīrghikā*) could be considered to be everywhere as well as the habitation of the ascetics (*maṭha*) and the eating-place (*bhukti-niketana*).

The prescriptions given in this text for a *vāpī* are not very elaborate; also they do not give helpful information regarding the location. The text is mainly concerned with stating the locations of various buildings within the area of a town or village, rather than giving more details about their construction and shape.

The *Mānasāra* gives similar information for the location of a well or stepwell. It is said in the chapter dealing with the description of deities belonging to one class:

Chap. XXXII, v. 88: A well (*kūpa*) or pond (*taḍāga*) should be dug in the quarter of Īśa.

The quarter of Īśa corresponds to the north-eastern direction which is the same specification for a water-place given in the *Mayamata*. More details are given about the quarter of Īśa in the *Mānasāra* in

Chap. XXXII, vv. 54-55: In the Īśa-quarter, one should build a temple for the rudra-idol; or there also could be a hall for the sacrifice (*yajñaśālā*) and the hall where offerings are cooked (*bhoga-maṇḍapa*).

In the chapter dealing with the location and measurements of dwelling-houses (*gṛha-māna-sthāna-vinyāsa*), it is said:

Chap. XXXVI, v. 27: The intermediate space (*antarikṣa*), the quarters of Agni and Puṣāṇa, are suitable for the wells of all castes.

In the chapter dealing with kingly palaces (Chap. XL, *rāja-grha-vidhāna*), it is said (in verse 100) that a reservoir should be dug in the north-west or south-west. The topic of steps is elaborated in Chapter XXX, verses 85 ff. It starts with an indication that the best artisan constructs steps in houses, gateways, in a hill-region, in stepwells, wells, and tanks and in cities and villages. It continues with verses 119 ff that in a stepwell, well and tank, the steps should be attached all around, in the four directions, in the four corners or in between. The best spot is selected for the main entrance.

The information given is not only concerned with stepwells, but also with the other water-places. There is not definitive information as to the actual location of a well, as a difference is made between wells built for people and the one built in a king's palace.

Only later texts, from the 12th century onwards, deal with types and formations of a stepwell proper, whereas the earlier texts are mainly confined to the location of a stepwell or other water-monuments. The references in these later texts, however, are a more idealised classification of the four types of stepwells which is the same for all the later texts. It seems that the authors in the following centuries took over the classification made originally, and repeated it without any variations. To my knowledge, the earliest reference of this kind to *vāpī* is found in *Aparājita-prcchā*,⁴⁵ a text specially dealing with the north-western tradition of architecture in Gujarat. This text is ascribed to the tradition of one mythological Viśvakarma, and the redaction, existing in some manuscripts, seems to originate from the 12th century.⁴⁶ Another text, *Rājavalabha*⁴⁷ of the architect Maṇḍana from the 15th century, repeats without additions the grouping into four, which is also taken over by texts like *Bṛhat-śilpaśāstra* and *Vāstusāra*.⁴⁸

The *Aparājita-prcchā* seems to be the earliest text to devote a full chapter to 'the discussion of stepwells, wells, ponds, etc.' (Chap. 74). There is even a full paragraph within the chapter on 'The discussion of all flags' devoted to the setting up and description of the parts of the flagpole and flag in a stepwell (Chap. 145, vv. 25-29). The information given in Chap. 74 is the classification into four types of stepwells, namely, *nandā*, *bhadrā*, *jayā*, *vijayā*, which reads as follows:

v. 9: There are *nandā*, *bhadrā*, *jayā*, and as the fourth *vijayā*. Granting wishes is the one called *nandā* with one entrance (*eka-vaktra*) and three pavilion-towers (*tri-kūṭa*).

v. 10: Well-adorned is the one called *bhadrā* with two entrances and six pavilion-towers (*ṣaṭ kūṭa*). Difficult to attain, even for gods, is *jayā* with three entrances and nine pavilion-towers (*nava-kūṭa*).

v. 11: Facing all directions (*sarvatomukha*) is *vijayā* with four entrances and twelve pavilion-towers (*sūrya-kūṭa*). About stepwells so much is told; now, my child, hear about ponds (*kuṇḍa*).

These are the four stepwells.

This systematic listing of types without much description does not seem to be a reflection of any actually existing monuments. The perfectionist tendency could be realised in the successive numbering of the entrances from one to four with three pavilion-towers for each entrance. Among the existing monuments, one could trace three of the four mentioned types, namely, the *ekavaktra*, the one with one entrance, the usual type (for example, the Dādā Harīr stepwell in Ahmedabad, the Rāṇī stepwell in Pāṭaṇ, the Vikia stepwell near Ghumli); the *trivaktra*, the one with three entrances, which is not very common (for example, the Rudabai stepwell in Adālaḥ); the *caturvaktra*, which has four entrances arranged radiating crosswise in

the four main directions from the centre which is the well. There is only one major example existing of this type in Chobari, Saurashtra, the Chaumukhi stepwell. But it is doubtful, however, whether this classification into four was ever meant to be used for identification of actual monuments.

In Chapter 145, it is said that at every stepwell there is a flagpole which is generally erected at the right (or southern) side at the exit of the doors (or entrance-hall). The text describes the construction of the platform, its height, the height of the wooden pole, the situation of the divine vase on top and the length of the flag. The text runs as follows:

Chap. 145, vv. 25-29: At every stepwell there is generally a flagpole (*dhvajāstambha*). The flagpole is generally erected at the right (southern, *dakṣiṇa*) side of the exit of the doors (entrance-halls, *dvāra-niṣkāsa*).

v. 26: The construction of the platform (basement, *pīṭhabandha*) is well done having a height (*unnata*) of one, two or three ells (*hasta*). Then one erects the pole, the best and strong one is of hard-wood (*sāradāru*).

v. 27: The total height (*amunnata*) is three, five or seven ells; *jñāna*, *artha* and *kāma*, with these three, it is generally threefold (*triśa*).

v. 28: On top of it (*tad-ūrdhva*), there should be made the divine vase (*kalāśa divya*) possessing good marks. The flag-stick (*dhvajā-vaṁśa*) is generally over it (i.e., over the *kalāśa*) and the flag (*patākā*) is long (*pralambana*, i.e., hanging down).

v. 29: The stick (*vaṁśa*) is normally half (the size of the pole, *stambhārdha*), the flag equal in breadth (i.e., the breadth of the flag is equal to the height of the stick, *vaṁśatulya patāṁkikā*). In this manner the setting up of the flag (*dhvajā-ūdbhava*) for stepwells (*vāpī*) should be carried out.

The text is clear, except for the context of the three philosophical concepts, *jñāna*, *artha* and *kāma*, unless an identification of these with the three parts of the flagpole is meant. But still, meaning and significance of the identification remain diffuse.

The *Bṛhat-śilpasastra*, in Book 3, v. 532, and the *Rājavallabha* in Chapter 4, v. 28, give in very concise form (in one verse of two lines each) the same information about the four types of stepwells, as is given in the *Aparājita-pricchā*. These texts differ from the earlier one in the use of the term *mukha* for entrance instead of *vaktra*, but otherwise the names *nandā*, *bhadra*, *jayā* and *vijayā* are the same. The *Rājavallabha* refers to the high merit for one who builds a well or stepwell. It says:

Chap. 4, v. 1: Those kings who construct a fort which brings happiness to people and saves them from the fear of enemies acquire the merit of having made stepwells (*vāpī*), wells (*kūpa*), ponds (*taḍāga*), temples (*devabhavana*), gardens (*rāma*), sacrifices (*vāga*) and so on . . .

The *Viśvakarma Vastuśāstra*⁴⁹ is the only text that gives an elaborate description and an idea as to what a *vāpī* might have looked like. One full chapter is devoted to the 'Characteristics of stepwells' (Chap. 33). Not only from this point of view, but also from its interesting contents, this chapter is very important. It reads:

v. 1: Having examined (*parīkṣya*) where there is (underground) flow of sweet water, steady (i.e., continuous, *sthiti*), there one should construct a stepwell (*vāpī*) or well (*kūpa*) as it is approved.

- v. 2: Generally, it is constructed quadrangular (*caturasra*), circular (*vartula*) or oblong (*dīrgha*). A measurement of three, four, or five *daṇḍa*.
- v. 3: Or even six *daṇḍa* or up to ten *daṇḍa* is generally employed, having four entrances (*mukha*), two entrances or occasionally one entrance.
- v. 4: The middle part of the bottom (*tala-madhyā-bhāg*) has a dimension of ten ells (*hasta*) or more (according to the commentary: the foundation, *tala*, should be constructed ten *hasta* below the flow of water). (On this foundation) the wall (*bhitti*) is constructed, which is either of bricks (*aṣṭika*) or of stones (*śailaka*).
- v. 5: Near the water-level (*jalāntika*), there should be constructed an open area (*aṅgaṇa*) (comm.: a square *aṅgaṇa* which is one *daṇḍa* in length), as it was pronounced earlier, or a second one or even a third one (comm.: in the course of the staircase, i.e., above the first *aṅgaṇa*, there is a second, above the second, there is a third; with firm joints pillars are erected, on the construction of pillars there are stone slabs, *pāṭala*, to resist the load of the upper construction, *bhāravahanaksa*).
- v. 6: With or without pillars (*sopāda*, *vipāda*), the supporting (*sthāpana*) is done cleverly (with skill, *yukti*). The construction is fixed together firmly. It is beautiful because of pillars and steps (*pādasopāna*).
- v. 7: An entrance-hall (*mukha-maṇḍapa*) is attached and doors (*kavāṭa*) and so on are there (comm.: so that children might not fall into the *vāpī*). If the stepwell is circular (*vartula*), then the staircase (*paṅkti*) is in the formation of the coils of a snake (*bhujāṅga-aveśṭana-ākṛti*). It (*paṅkti*) should be constructed firmly. (If not circular) then (it should be constructed) in a straight staircase (*sūtra-paṅkti*). Wise (builders, *budhi*) do not expect (*na-iṣyate*) it (staircase) to be less than 24 *aṅgula* (*vihiṇam* as in the text has no meaning, here probably meant *va-hīnam*, i.e., not less than).
- v. 9: At the rim (*tīra*), there should be constructed a device for pulling up water (*ghaṭī-yantra*), surrounded by a courtyard (*sa-aṅgaṇa*), so the wise one (thinks). There should be made sculptures of gods (*deva-mūrti*) and ornamentation in the form of *kinnara* (*kinnara-rūpaka*) at the entrances (*dvāra*) and while approaching (*upeta*) to the level (*tala*) for taking baths (*avagāha*) (comm.: one should make exciting images of *kinnara*, *mithuna* and so on; intended is the installation of idols, *bimba-sthāpana*, of gods for *pūya* and *darśana*, that is, of Varuṇa and other gods).

The reference to the round staircase in verse 8 which sounds at first very strange in connection with stepwells might have a place in its own right, if we look for an example to the actual monuments. One of the five types of existing stepwells is marked as the type with a circumambulatory passage. To this group belong the stepwells which have the stepped stairway descending spirally in a narrow passage or as the text says "like the coils of a snake". The helical stepwell, near Pavāgarh (central Gujarat) illustrates this architectural feature (Fig. 240). Some examples of this type have a slightly different architectural layout with a surrounding passage (*bhramaṇa*) around the actual well. Examples of this type are to be found in Mehmudabad (Fig. 236) near Ahmedabad, in Mandva in northern Gujarat and in Vanthali, near Junāgadh (the Ra Khengar stepwell—Fig. 218).

The commentary to verse 9 is most interesting. Firstly, it mentions images of god Varuṇa, the sea- and water-god, to be attached to stepwells and ornamentation of *kinnara*- and *mithuna*-scenes which are most common on brackets, friezes, capitals, or in niches at stepwells (for example, at Vaḍhvāṇ, Isānpur, Dāvād, among others). The term 'level for taking bath' is not easily understood in the abstract and needs elucidation by a view of the actual monuments. Most of the stepwells (for example, the Rudabai stepwell in Adālaḥ, the Dādā Harīr stepwell in Ahmedabad) have, besides the vertical well, a second reservoir of water at the last, often sixth or fifth, storey underground (Fig. 74). This reservoir is mostly square and steps are

leading down to the water level to make bathing, washing of utensils and clothes and taking water easy. This second reservoir of water is conceived in the construction of stepwells to provide for a cool and fresh resting-place during the day and to keep the water in the well clean, from where it is hauled up by buckets (also the text mentions a device for pulling up water, *ghaṭīyantra*). The area around this reservoir is mentioned in the text as *aṅgaṇa*, the open space. The space around it is open to the sky and is framed by five or six (or the respective number) storeys of gallery-constructions forming a kind of inverted tower underground. These galleries provide more space for a cool resting-place, a retreat from the heat of the day, as normally also benches (*kakṣāsana*) are attached, being a railing around the open space (Fig. 76).

Important information could be gathered from an inscription found in Kantela, Porbandar,⁵⁰ concerning the iconography of the sculptures attached to a stepwell or pond. From the existing monuments, it has already become clear that the variety of sculptures appearing in a stepwell and pond is very peculiar, as only a few varieties appear out of the lot of iconographical possibilities from Hindu mythology. There are, for example, sculptures of Mahīśamardīnī, Viṣṇu Śeṣasāyīn, Gaṇeśa, Bhairava, Sūrya, Navagraha, Saptamātrkā and other forms of the mother-goddess, as well as sculptures of women with child or giving birth to a child. So far I came across only one single textual evidence that mentions which sculptures are to be attached to a water-place. In the above-mentioned inscription, it is stated that Samantasīmha of the Śrimala family, who was appointed viceroy over Saurashtra by the Caulukya sovereign Visaldeva, repaired Revatī Kuṇḍa situated on the seashore on the way to Dvāraka, where Revatī used to sport with her husband in ancient times according to mythology. Samantasīmha caused new flights of steps to be made and also images of Śiva and Viṣṇu (as Jalaśayīn) together with those of Gaṇeśa, Kṣetrapāla, Sūrya and Caṇḍikā and also an image of Revatī and Balarāma. This information is to some extent corroborated by the actual monuments from Gujarat and Saurashtra. The figures of Revatī and Balarāma, however, seem to be peculiar to the Revatī Kuṇḍa in Kantela only.

Chronology of the Stepwells based on Inscriptional, Historical and Stylistic Evidence

One of the earliest monuments connected with the storing and keeping of water that came to light in Gujarat seems to be the 'deep tank or bath' in the Buddhist caves in the Uparkot in Junagadh (Fig. 16).¹ The water in this pond-like bath is approached by narrow stairs at the western wall. Staggered stairs of three steps reach down to the bottom of the pond on opposite sides. The pond is surrounded by a circumambulatory passage on three sides, while the fourth, a closed wall to the north, gives through an opening a free view into the next spacious chamber. The supply of water is guaranteed by a channelling system connecting the pond with a cistern and a well outside. A seat-like stone-bench serves as a resting-place at the back wall of the western side of the surrounding passage. The ceiling of the corridor is supported by two pillars on the southern side, which have octagonal bases and round shafts which are embellished with spiral flutes. According to the sculptural decoration in the lower chambers of these caves and the style of the pillars, these were dated to the fourth century A.D.² Based on the architecture and sculpture of these rock-cut caves in Saurashtra, the Saurashtra style of temple architecture evolved in the successive centuries.

According to some scholars, the oldest example of a stepwell is Nāvghān Kūo (Fig. 30), cut into the rock of the Uparkot in Junagadh, situated a few hundred metres to the south of the above-mentioned Buddhist caves. The construction could be as old as the Kṣatrapa period (2nd to 4th centuries A.D.), whereas one scholar believes it as being contemporary with the early Maitraka temples (i.e., 6th/7th centuries).³ Some more examples of rock-cut stepwells are found in the area around Porbandar which are ascribed to pre-Caulukya times. In the Nāvghān Kūo, a circular staircase (*carika-rohana*), carved out of the natural soft stone and surrounding the well-shaft leads down to the bottom. The simple square pillars and its peculiar construction method indicate its early date. Other authorities, however, believe that the Nāvghān Kūo was dug many centuries later, maybe by Ra Navghan, and completed by his son Ra Khengar in the 11th century.⁴

Also the second stepwell in the Uparkot is cut out of natural rock. Its simple structure only consists of the basic stepped corridor, which is extremely narrow, and the deep well-shaft. It is called Aḍī Kaḍī Vāv (Figs. 28, 29) and believed to be constructed during the Cuḍāsamā period in the second half of the 10th century.⁵ It is known⁶ that the Cuḍāsamā ruler Graheripu or Grahario I built the upper fort in Junagadh, called Uparkot, which had already been utilised as a strategically important point by the Mauryan and Gupta rulers who have left behind stone-inscriptions. According to another source⁷ this Aḍī Kaḍī Vāv belongs to the 15th century and derives its name from two maid-servants Aḍī and Kaḍī of Ra Navghan. The two wells must have been well known and popular places in earlier times, as a folk-proverb says, 'One who has not seen Aḍī Kaḍī Vāv and Nāvghān Kūo, has lost a great chance in his life.' On the assumption that the Nāvghān Kūo belongs to the Kṣatrapa period, the two wells of Uparkot are dealt with first, as the construction of both was carried out by digging into natural rock, a very early method of creating architectural form, which, however, was continued in later centuries.

The dating of the three stepwells in and near the village of Dhānk in Saurashtra has not aroused much controversy among scholars. These seem to be the earliest known stepwells

which are structurally built (Figs. 31, 32). Their construction falls into the pre-Caulukya period and their date could be ascribed to the early 7th century, during the rule of the Saindhavas in that area. One stepwell which is located about 15 km to the west of the village of Dhāṅk, near the Bochavdi Nes in the Alech Hills, later called Bochavdi Vāv, is L-shaped and is ornamented with *candra-śālā*, dormer windows. This stepwell might be slightly earlier than the two Dhāṅk stepwells. It is located on the road to Siddhsar and is in a dilapidated condition with occasional repairs.⁸ The two stepwells in Dhāṅk itself are called Jhilanī and Manjushrī stepwells. The Jhilanī stepwell is dated to about A.D. 600 and the Manjushrī stepwell to the early 7th century, because of stylistic similarities in the niches, pilasters, and doorframes with the contemporary temples of the Saurashtra style, especially the temple of Kadvar.⁹

Next in chronology is the stepwell of Moḍherā (Figs. 279 to 283) situated to the west of Sūrya Kuṇḍa, the pond in front of the famous Sun temple. It is a very simple structure with one entrance and two pavilion-towers and of moderate ornamentation. The plain square pilasters (of *rucaka* type) and the carved doorframe (*dvāra-śākhā*) depicting lotus-leaves indicate an early date. It is believed, however, that the small *maṇḍapa* above ground level is earlier than the stepwell itself and was fixed on to the second *kūṭa* of the stepwell. The Moḍherā stepwell could belong to the 11th century, whereas the small *maṇḍapa* to the 10th century, as also suggested by Dhaky.

The next stylistic period falls into the reign of Bhimadeva (1022-66) during which the most magnificent stepwell was built. It is the Rāṇī stepwell in Pāṭaṇ (Figs. 72 to 92) said to have been patronised by Bhimadeva's queen Udayamatī, therefore was named Rāṇī Vāv, the stepwell of the queen. Although it is in a dilapidated condition, its earlier grandeur is still to be witnessed in the back wall of the well and its two pairs of projecting struts (*maḍala*) which are completely covered with beautifully sculptured panels, and the walls of the stepped corridor which are in the same way embellished with niches, pillars, pilasters, projections, etc. The close resemblance of these sculptures and pillars with those in the temple of Adinatha built in 1032 on Mt Abu by Vimal Shah, Bhimadeva's minister and later governor of Candravatī, could justify assuming both monuments as contemporary to each other.¹⁰ Aṅkol Mātā stepwell of Dāvad (Figs. 37 to 67, 69 to 71), although of smaller dimensions, in style closely resembles the Rāṇī stepwell. However, the sculptures embellishing the upper pavilion in the first pavilion-tower show a slight development in design and workmanship and could be compared to the dancing hall of the Sun temple in Moḍhera (Fig. 15) and the Nīlakaṇṭha Mahādeva temple in Sunak. The iconography and postures of the sculptures, the designs on the *vedikā*, the leaf-and-branch creeper motifs on the *dvāra-śākhā* and the lotus-leaf carving on the *jadyakumbha* indicate a style belonging to the best of the Māru-Gurjara tradition, most probably under the rule of Karṇadeva (1066-94), successor of Bhimadeva. These points led to ascribing to the third quarter of the 11th century of the Aṅkol Mātā stepwell in Dāvad.¹¹ To the same period of the Caulukya rule, the Mātā Bhavānī stepwell in Ahmedabad (Figs. 92 to 97) is thought to belong. Burgess¹² is of opinion that it might belong to the time of Karṇadeva, who had founded Karṇavatī, a city supposed to have been situated in present-day Ahmedabad. More convincing than this statement could be the similarity of the architectural construction of the Mātā Bhavānī stepwell with the Aṅkol Mātā and Rāṇī stepwells having the additional lateral staggered stairs inserted in the stepped corridor. Considering this fact, one could think that these three stepwells are contemporary, at least in their basic ground plan, and that additions or repairs were carried out in the upper pavilions of the Mātā Bhavānī stepwell in later periods (see Chapter IV). To Minaldevī, the mother of the Caulukya ruler Jayasimha Siddharaja, the construction of a large number of stepwells is ascribed. She had patronised the building of an artificial lake (*taḍāga*) in Viramgām and also one at Dhoḷkā, and the stepwell in Naḍiad is ascribed to her. Also the Mīnal stepwell in the village of Balej (in Ānand tālukā, Sābarkaṇṭhā district) was

ascribed to the same patroness, being built in v.s. 1152, i.e., A.D. 1095.¹³ But there are no sculptures to indicate any stylistic relationship. Another stepwell (Figs. 234 to 237) bears the name of Minaldevī, the Minal stepwell in Vīrpur (in Gondal *tāluka*, Rājkot district), and is attributed by local tradition to the same lady-patron. Although the sculptures in this stepwell are rather dilapidated, one can still observe a few stylistic affinities to the Navalakha temple in Sejakpur, the Navalakha temple in Ānandpur (Figs. 6, 7) and the shrines in Chobari and Pārbadi, which are dated to the reigning years of the same Jayasīṃha Siddharāja (1094-1144). The clearest detail of stylistic affinity is the *jali*-fretwork making the pediment of the niches, being a combination of foliate and geometrical designs and giving the impression of calligraphy. To the same period of the beginning of the 12th century belong also the Āsāpurī stepwell of Ahmedabad (Figs. 238 to 245) and the stepwell of Jhīñjhuvada in northern Gujarat (Figs. 35, 36).

The Caumukhi stepwell of Chobari (Figs. 396 to 398), near Ānandpur in Surendranagar district, belongs stylistically very close to the temple-group of four in Sejakpur, Ānandpur, Chobari and Pārbadi, all located within an area of less than 30 km in radius. The images of Śeṣaśāyin, Śiva-Pārvatī, Saptamātṛkā, Cāmuṇḍā, Śiva, the Dasāvātāra, Navagraha found in the niches in the four entrance-passages of this stepwell display the same features as in these temples.

The two stepwells in Kaleśvarī nī Nāl (Figs. 284 to 306), in Luṇavāḍā *tāluka* in Panchmahāls district, having sculptures which are as important as those in the Rāñi stepwell in Pāṭaṇ, could be ascribed to the end of the 10th century (Figs. 303 to 307) due to iconography and style of the images of Śeṣaśāyin (Figs. 293 to 295), Saptamātṛkā, the Dasāvātāra of Viṣṇu (Figs. 296 to 302) and the other interesting idols which are in the style of those of the temple in the Mahā-Gurjara style in the same location.¹⁴

Again, a legend connects the stepwell in Dhandhalpur (Figs. 254 to 260) with Jayasīṃha Siddharāja. It is said that the sovereign was born in this village, when his mother Minaldevī was returning from Dholkā to Pāṭaṇ. After coming to the throne, he founded the village of Dhandhalpur, constructed a well in Sejakpur, built the fort of Dhandhalpur and also a tank in honour of his birth-place, being at that time the farthest extension of his kingdom.¹⁵ From the stylistic point of view, it is likely that the stepwell there belongs to this period, although it is rather plain, except for the fanciful variety of bracket-figures, which are in some instances styled in a folk-like tradition.

The middle of the 12th century, being the period of the reign of Kumārapāla, who succeeded Jayasīṃha in 1144 and reigned till 1174, is distinguished by the building of numerous Jaina temples due to the ruler's inclination towards this religion. The city of Vāyad, ancient Vāyuvāṭa or Vāyupura, has a stepwell which is supposed to belong to Kumārapāla's time. It is situated near the temple of Vāyudevātā, the god of the wind.¹⁶ Cousens dates this stepwell to the 13th century v.s., trying to decipher a 'much abraded inscription' on one of the pillars.¹⁷ His suggestion would be in harmony with the dating made according to the order of the pillars, its bracket-figures and the Bhairava sculpture in one niche.

The older of the two stepwells in Vaḍhvān, called the Gaṅgā stepwell (Figs. 250 to 253), is attributed to the same ruler's period. There was once an inscription dated v.s. 1225, i.e., A.D. 1169, of which only a few words are readable: 'the brave warrior Śrī Vijaya'.¹⁸ During his survey of monuments, Cousens¹⁹ did not find the inscription any more, which probably was submerged in water, which was also the case when I surveyed this monument.

The next phase, styled as the pre-Vāghelā period during the reign of Bhimadeva II (1178-1242), is characterised by slower building activity due to political unrest. In this period, to which the Nīlakaṇṭha Mahādeva temple in Miāni²⁰ (erected in 1204—Figs. 3 and 4) and the temple-complex called Mūladvāraka in Visavāḍa (Fig. 5) belong, the building of Vikia (Figs. 189 to 211) and the Jetha stepwells near Ghumli in the Barda Hills took place. These two stepwells reflecting the magnificent temple of Navalakha in Ghumli (Figs. 8, 9)

are exquisite examples of style and art-traditions of the 13th century in the south-western corner of the peninsula of Saurashtra. Also the Jñān stepwell (Figs. 339 to 350) situated in the Barda Hills in the village of Visavāḍa, not far from the ancient place of Ghumli, is ascribed to the 13th century during the time of Bhimadeva II, being slightly later than the Mūladvāraka temple-complex adjacent to it. The stepwell of village Keshav, a small and now broken down stepwell lying forgotten in a barren landscape around the Barda Hills, is supposed to be of the same date as the Jñān stepwell in Visavāḍa. In northern Gujarat, the 13th century is marked by the rise of Vāghelā power. The Vaghelās extended their rule slowly to the peninsula of Saurashtra. The minister-brothers Vastupāla and Tejapāla were the source of tremendous and prolific architectural activity. It is said that numerous monuments, like temples, rest-houses, tanks, wells, etc. were erected by them, for example, the Neminātha temple on Mt Abu (built in 1231), or the temples on Mt Girnar (built in 1232). The Ra Khengar stepwell (Figs. 374 to 403) near Vanthali was built during this early Vāghelā period, as is stated in the *Vastupālacaritra*, a biography of Vastupāla by Jina Haṛṣa Gāni (dated v.s. 1497, i.e., A.D. 1441), that Tejapāla had built a stepwell between Tejālapūra or Jirṇadūrga (i.e., Junāgadh) and Vāmanasthali (i.e., Vanthali).²¹ This stepwell is identified with the Ra Khengar stepwell which is situated on the road between Vanthali and Junāgadh and dated to 1230-35 by Dhaky on this ground. By the middle of the 13th century, the Vāghelās assumed sovereign powers of their state and it was Visaldeva, who was the greatest exponent of building activity. The gateways (*pratoḷi*), temples and the *vāpī* in Dabhoi were built by him and completed in 1255. The Satmukhī stepwell in Dabhoi (Figs. 33, 34) is actually no stepwell at all. The monument built on the bank of the Nageśvar tank is a temple. One distant reason that one could imagine why this temple received the name of a stepwell, i.e., Satmukhī stepwell, meaning 'the stepwell with seven entrances', is that it was built over an ancient well, as it is said that there were many wells in that tank. It is believed that this temple was originally sacred to Śiva and contemporary with the Kālikā temple (Fig. 13) adjacent to the Hira gate in Dabhoi, which is ascribed to King Visaldeva, i.e., 1255.²²

The Mādhā stepwell (Figs. 212 to 229) in Vāḍhvāṇ was built during the end of the Vāghelā period by a Nāgar Brāhmaṇa. His statue and that of his wife are still to be seen in the wall of the well. The building of the stepwell is attributed to Mādhā, the minister of the Vāghelā ruler Karan Ghelo, the last of his line.²³ Forbes writes²⁴ that the builders were two ministers of Nāgar Brāhmaṇa caste, Mādhā and Keshav, of the same ruler. Of the several lines of inscriptions under some sculptures which are much eroded, a date of v.s. 1350, i.e., A.D. 1294, and the name of Nāgar Sindhu, son of Soma, and Lashami (i.e., Lakṣmī), daughter of Soḍhala, can be made out.²⁵ Although there is no indication in epigraphy or history to the construction of the Bātris Koṭha (Figs. 98 to 104) stepwell in Kāpaḍvañj, stylistically it is related to the Mādhā stepwell in Vāḍhvāṇ due to the formation and ornamentation of the struts and to the Vikia stepwell due to the manifold varieties of human figures on the brackets. This stepwell of Kāpaḍvañj, therefore, could belong to the 13th century.

To continue with the building activity under Vāghelā patronage, it might be mentioned here itself that the famous stepwell in the small village of Adāraj was built by Rūdadevi (Figs. 307 to 337), wife of Virasimha, a Vāghelā king of Mokalsimha's line in the region of Dandahi in the year v.s. 1555, i.e., A.D. 1500.²⁶ The gate-houses at the entrance and the style of ornamentation at the inner wall of the octagonal shaft of the stepwell in the village of Mandarapur (Fig. 338) in Kheralu tālukā of Mehsāṇā district lead us to the conclusion that it might be contemporaneous with the stepwell of Adāraj.

The 14th century is marked with the building of numerous stepwells. The inscription in the Soḍhali stepwell in Māngrol, carved on a cross-beam in the stepped corridor, informs²⁷ us that Vālī Soḍhala of the Moḍha caste had built this stepwell in v.s. 1375, i.e., A.D. 1319, during the reign of Ravala Śrī Mahīpādeva. It is not clear, whether this king was a Gohil or

a Cuḍāsamā, but it is without doubt that Māngrol passed into the hands of Muslim overlords during the 14th century.

The stepwell in the ancient site of Khedbrahmā (Figs. 230 to 233) or Brahmākṣetra is situated opposite the temple of Brahmā. It is a large and interesting edifice, built in grey granite-stone. The style of ornamentation with a row of miniature shrines at the back wall in the well could indicate a date in the 14th century.

The next three inscriptions in stepwells testify that in the 14th century parts of Gujarat were under Tughlak supremacy. The inscription in the Suḍa stepwell in Mahuvā (near Bhāvnagar)²⁸ mentions that in v.s. 1437, i.e., A.D. 1381, Shajalhodevī, the wife of the minister Sud who was a descendant of the Brāhmaṇa Nārāyaṇa of the Bhāradvāj gotra, had built this stepwell, and that in the area King Satyarāja ruled, whereas Gujarat then was under the rule of Phiroz Shah Tughlak. The Hani stepwell in Dhandhusar (in Rānāvān tālukā of Junāgadh district) was built, according to its inscription, by a Vanthali princess called Hanī, the wife of the minister Vaidnath of Rāja Mokalsimha of the Cuḍāsamā dynasty in v.s. 1445, i.e., A.D. 1389, during the time when Gujarāt was ruled by Ghiyasuddin under Tughlak authority.²⁹ Dhaky³⁰ attributes the date of A.D. 1333 to the Hanī stepwell. The Siddnāth Mahādeva stepwell in Dholkā was built, as the inscription says, in the year v.s. 1466 or śaka 1332, i.e., A.D. 1409, by Sahadev for the merit of his son Āśācandra, when Muzzaffar was the governor of Gujarāt for Sultan Phiroz Shāh Tughlak.³¹ The stepwell of Sāmpa, a village in the vicinity of Ahmedabad, is attributed also to the beginning of the 14th century, because the inscription on marble plates mentions v.s. 1384, i.e., A.D. 1328.

The stepwell of Rāmpura, the Rājā stepwell (Figs. 246 to 249) (in Vaḍhvān tālukā of Surendranagar district) seems to have been using the Mādhā stepwell in Vaḍhvān as a prototype, which is about two centuries earlier. With one stepwell in Cambay, this stepwell in Rāmpura is contemporary, their dates being A.D. 1483 and 1482. The one of Rāmpura bears an inscription giving details about the ruling authorities of the area, namely, Sultan Maḥmud Begarah of Ahmedābād, and the ruling Pārmārs Laghdhirji and Hadi. The Vadvaṇī stepwell in Khambhāt or Cambay (ancient Stambhapūra) was built by Mehar Devak, son of Mehar Sukund of Tamboli caste, while the *sūtradhāra* (i.e., 'the holders of the string') for the construction were Vana and Kheta.³² The reference to a member of the Tamboli caste who was the builder of a stepwell is extremely interesting, as Tamboli is the caste of *pānvālā*, i.e., the seller of *pān*, the common betel leaf-and-spice preparation. In the last year of the 15th century, the famous Dādā Harīr stepwell (Figs. 105 to 124) of Ahmedābād was built by a harem-lady of Sultan Maḥmud Begarah in v.s. 1556, i.e., A.D. 1499, while the *sūtradhāra* and the *sthāpti* (i.e., 'who erects', meaning the supervisor of the construction) were 'Hindus', with names like Gajādhara (Gajjar) Vaiśya.³³

The stepwells constructed in the Muslim period and under Muslim patronage were built with a slightly different approach and intention, as compared to the earlier times. The religious impact as a worshipping and sacred place, felt in all the earlier stepwells, lost its significance in the later times, subsequent to the reign of the Vāghelās, the last sovereign rulers of Gujarat and Saurashtra. The old stepwell in the village of Soḍali, near Mehmudābād (Fig. 407) and the one in Mehmudābād itself are illustrative examples of this. The Soḍali stepwell is ascribed by local tradition to the time of Maḥmud Begarah, and the other is also believed to belong to the 15th century. It is cut into solid rock with chambers around the well and might have embellished a pleasure-garden. Two stepwells found in and around Baroda also belong to the 15th century. The inscription in one, in the village of Sewasi (Figs. 183 to 188) about 6 km outside Baroda, records its construction in v.s. 1537, i.e., corresponding to a year around A.D. 1480, whereas on the inscription in the Navalakhi stepwell (Figs. 360 to 367) in the compound of the Lakṣmī Vilās Palace, the seat of the traditional Gaekwad rulers up to the recent times, it is stated that it was constructed by Malik Adam, son of Suleiman, in

A.H. 807, i.e., A.D. 1405.³⁴

The 16th and 17th centuries still witnessed the construction of numerous stepwells. The stepwell of the village of Chatral (Figs. 358 to 363), situated very close to Adāraj, was built more or less contemporaneously with the famous stepwell there, i.e., the beginning of the 16th century. The Nāgā Bāvā stepwell (Figs. 157 to 164) in Dhrāṅgadhṛā in upper Saurashtra with the doorkeeper in royal garments is dated by the inscription to A.D. 1525, and the Jiva Mehta stepwell (Fig. 405) attached to the temple of Kubernāth, in Morbi situated a short distance to the west of Dhrāṅgadhṛā, could be of the same age considering the style of pavilion-towers, pillars, and sculptures.

The stepwell in Roho is well known to epigraphists³⁵ because of four inscriptions found in it, of which, however, only one refers to the stepwell itself; the others seem to come from a temple. The inscription mentions that Campa, the wife of Rāja Śrī Nānājī, and her daughter had built two temples and this stepwell in v.s. 1616, i.e., A.D. 1560, a date which is very well attributable to this stepwell, because of the style of pillars, as otherwise the stepwell is plain and not of great architectural importance. Other stepwells of some art-historical importance of the mediaeval age are found in Jhinhuvāda and Palanpur (North Gujarat).

There are some absolutely plain and simple stepwells with straightforward and basic architectural layout which are very difficult to date and seem to be timeless, in the sense that their architectural features could have been built any time, as, for example, the stepwells in Hampur (Figs. 172 to 180), Iḍar (Figs. 165 to 171), Kaṅkavatī (Figs. 181, 182) or the Jñāneśvarī stepwell in Moḍherā. As they all do not display much sculptural or decorative ornamentation, no specific attribution of style or period can be made. One can assume them to belong to the 16th to 17th centuries. Also the stepwell of Mandva in northern Gujarat which is similar to that of Mehmudābād, could belong to the 16th century, whereas the Sindhvāi Mātā stepwell in Pāṭaṇ (Fig. 400) displays features of a later structure and is dated in its inscription in old Gujarati to A.D. 1633. The Rāvli stepwell in Māngrol also belongs to the 17th century.

The excellent example of local architectural and sculptural skills is found in the monument of Limbhoi (Figs. 125 to 140), situated not far from the town of Iḍar. The stepwell is well preserved, and the cross-shaped entrance pavilion and the sculptures of godly pairs, Śiva-Pārvatī and Viṣṇu-Lakṣmī, testify to the continuation of building and art traditions from the memorable excellence during Caulukya rule into the successive centuries. The words carved into the stone blocks of the stepped corridor in the stepwell in Limbhoi record its date of construction and builder: 'saṁvat 1686 varṣe viśaka sad 3 dane gajādhara govanda', meaning 'in the year (corresponding to A.D. 1629) in viśaka (month) on the third day of sad (i.e., sud) (by) gajādhara govinda'.

The Amṛtavarṣiṇī stepwell in Ahmedabad, an interesting monument with an L-shaped descending corridor, has an inscription which is believed to mention the denotation 'amṛtavarṣiṇī' to this type of stepwell. The inscription is on two marble tablets in the first pavilion, a Sanskrit inscription on the left and a Persian one on the opposite side. The date given is v.s. 1779 and śaka 1669, i.e., A.D. 1722 and in the Persian inscription the date A.H. 1135 is given.³⁶

The latest examples of stepwell-construction are found in Ahmedabad and in Wāṅkāner in Saurashtra (Figs. 404 to 406). They were executed due to the initiative of individuals for their own material benefit, i.e., in the case of the Jethābhāi (Figs. 265 to 285) stepwell in Isānpur near Ahmedābād for irrigation of fields and orchards and the second as a cool place of pleasure and retreat for the royal family of Wāṅkāner. Jethābhāi stepwell was built about 100 years ago using older materials and sculptures to decorate it, and the stepwell of the Wāṅkāner palace is only about 35 years old, built by the father of the erstwhile Rājā of Wāṅkāner. This stepwell is built completely in white sandstone and might be the last monument of its kind to be built, for it is unlikely that anybody would think of constructing a stepwell in our days of electric waterpumps and pipe-systems, apart from economic considerations.

The Five Main Types

PART A: BASIC ARCHITECTURAL FEATURES

The stepwells found in Gujarat can be divided into five main types. This classification is based on the distinguishing features of the architectural ground plan and structure, and it is not a division according to their historical development or their stylistic grouping. Each type is represented by the architecturally and art-historically most important and authentic examples, of which exact scale-drawings of the ground plan, section and elevation and significant structural parts are given. Location, historical setting, general architectural structure, architectural elements, sculptural work and decorative ornamentations, iconographic peculiarities and parallel monuments of a similar style and period will illustrate the background and features of each monument.

1. Type one: With straight stepped corridor and one entrance (Figs. 27 to 180)

This first type of classification specifies those stepwells having a plain basic structure. The feature which separates it from the other four types is the stepped corridor which is descending in a straight line and has only one entrance. Depending on the size of the monument, the stepped corridor ends at the level of the third or sixth storey underground. The most plain and unostentatious monuments of this type do not have elaborate pavilions: often these are only small, empty spaces marked by four pilasters, without having pillars in between to break up the interior and to support the upper floor (Figs. 85, 91, 99). The pavilion-towers with their various levels sustain the thrust pressing against the vertical side-walls in the ravine-like stepped corridor. In larger monuments, additional supporting frameworks resting on bressummers and spanning the breadth of the corridor are introduced in between two pavilion-towers to reduce the distance (Fig. 91). Specimens with extremely narrow corridors often do not have these intermediate supporting frameworks.

Type one could be identified with the first group of stepwells according to the classification of the *śilpa*-texts (see Chapter II) called *nandā*.

Stepwells belonging to type one form the bulk of monuments and therefore it is necessary to classify them in subgroups. These subdivisions are made according to secondary structural elements. Three main categories are marked, namely, (a) with lateral stairs within the straight stepped corridor, (b) with both the supporting structures, i.e., the pavilion-tower and the additional supporting framework and (c) only with the supporting pavilion-tower.

Category a: With lateral stairs (Figs. 30 to 71)

The addition of lateral stairs serves as a device to reach more quickly a lower level and to reduce the corridor-length as compared to the system with parallel descending steps only.

It is notable that in a pond (*kuṇḍa*) the descending path to reach the low-lying water level is organised as a system of attached lateral stairs in opposite directions to each other in order to combine one platform with the next. As a phenomenon, the appearance of this feature of a *kuṇḍa* in a stepwell is interesting, because the stepwells with lateral stairs belong to the earlier examples which had been built during the period of Māru-Gurjara style, i.e., the 11th century, whereas the bulk of stepwells were built in the 12th to 17th centuries. However, in this concise discussion of types, it is not intended to indicate a development of architectural form from pond (*kuṇḍa*) to stepwell (*vāpī*). Stepwells of this category are the Aṅkol Mātā stepwell in Dāvād (Figs. 30 to 47), the Rānī stepwell in Pāṭaṇ (Figs. 49 to 64), the Mātā Bhavānī stepwell in Ahmedabad (Figs. 65 to 67) and the Bātris Koṭha stepwell in Kāpaḍvañj (Figs. 68 to 71).

Category b: With both supporting structures (Figs. 72 to 120)

Larger monuments with regard to breadth rather than length of corridor have both the supporting structures. It is a common feature of all the stepwells belonging to this category that their stepped corridor is rather broad as compared to those belonging to the third category which had only pavilion-towers as supporting structures. The reason for this could be the amount of expenditure required for a more elaborate monument, but one can think of other possibilities also, such as the underlying geological features. Known stepwells of this category are the Dādā Harīr stepwell (Figs. 72 to 82), the stepwells in Limbhoi (Figs. 83 to 90), Sāthamba (Figs. 91 to 98), Dhrāṅgadhṛā (Figs. 99 to 104), Iḍar (Figs. 105 to 108), Hampur (Figs. 109 to 113), Kaṅkavatī (Fig. 114) and Sevāsī (Figs. 115 to 120).

Category c: With pavilion-towers as only supporting structures (Figs. 121 to 180)

To the third category, having only pavilion-towers, belong the stepwells of a rather monumental size as well as those of moderate dimensions. The monumental ones have a narrow, but rather long stepped corridor descending about five to six storeys underground. It is amazing that in the Vikia stepwell (Fig. 121), the vertical walls of the corridor are held upright only by three pavilion-towers descending for five storeys. Other important examples of this category are the Mādā stepwell in Vāḍhvāṇ (Figs. 132 to 138), the stepwells in Khedbrahmā (Figs. 139 to 140), Vīrpur (Figs. 141 to 143), Āsāpurī in Ahmedabad (Figs. 144 to 148), Rāmpura (Figs. 149 to 152), Gaṅgā in Vāḍhvāṇ (Figs. 153 to 154), Dhandhalpur (Figs. 155 to 158), Isānpur (Figs. 159 to 166) and Moḍherā (Fig. 167) in Kāleśvarī in Nāl (Figs. 168 to 180). There are some stepwells belonging to this category which are rather plain in architectural structure and ornamentation, such as, for example, the stepwells in Dhandhalpur, Isānpura and Moḍherā. The rock-cut Aḍī Kaḍī stepwell (Fig. 25), situated in the Uparkot (upper citadel) in Junāgadh could also be grouped here, although not structurally a monument. It is one of the earlier known stepwells. The fact that it is cut into the rock and descends deeply inside makes it an important addition to the early stage of stepwell-architecture.

2. Type two: With straight stepped corridor and three entrances (Figs. 181 to 202)

Type two is a variation of type one, having the same architectural structure and ornamental features, but distinguished by having a threefold entrance, i.e., 3 flights of steps arranged crosswise and attached to the stepped corridor (Fig. 183). Although there is only one extant monument of major importance, this type falls into the classification because of its unique ground plan. In the Sanskrit *śilpa*-texts, it is known as class three, called jayā (see

Chapter II). Representing this type is the magnificent and extremely well-proportioned stepwell in the village of Aḍālaj, near Ahmedabad, dated A.D. 1500.

3. Type three: With L-shaped corridor (Figs. 203 to 217)

Type three has a very peculiar architectural setting and seems to be exclusive to Gujarat, as it is found nowhere else. The ground plan is shaped like an L, i.e., the stepped corridor is not descending in a straight line, but turns at a right angle (Figs. 203, 211). The two arms could be of equal length, or the first arm is slightly shorter than the one leading to the well. Of the structurally built stepwells, the one with this formation is the earliest variety, i.e., one stepwell near Dhānk in the Barda Hills (Fig. 27).

To this type of stepwell the Sanskrit name *Amṛtavarṣiṇī* was assigned in recent publications, on the basis of a Sanskrit inscription which says that a stepwell with the name of *Amṛtavarṣiṇī* was built. In my opinion, this name does not necessarily denote the whole class of stepwells of the L-shaped type, because the meaning of the word is not necessarily a specific name, but more of an attribute to any stepwell, i.e., the Sanskrit term means 'showerer of nectar'. There is also another inscription attached to a stepwell in which the water of the well is called 'nectar'. The attribute 'sweet' is also a precondition for building a stepwell in the *Viśvakarma Vāstuśāstra* (Chapter 33, v. 1). To this type belong the stepwells in Visavāḍa (Figs. 203 to 210), Dhānk (Fig. 27), Baroda (Figs. 211 to 213), Chātrāl (Figs. 214 to 217), and Māngrol, besides the *Amṛtavarṣiṇī* in Ahmedabad.

4. Type four: With circumambulatory passage (Figs. 26, 218 to 236, 240)

This is the most peculiar type of stepwell, deriving this name because of the earlier representatives of this type. The structural characteristic of this type is the circumambulatory passage around the well (*bhramaṇī*) (Figs. 218, 220, 236). In later examples, this *bhramaṇī* is the main architectural element, and the stepped corridor descending to the water level is omitted. The stages of typological development (not strictly chronological) could be represented as follows:

Ra Khengar stepwell (Figs. 218 to 233), Nāvghān Kūo (Fig. 26), Helical stepwell (Fig. 240), stepwell of the Wānkāner palace (Figs. 234 to 235) and the stepwell of Mehmudābād (Fig. 236). The Ra Khengar stepwell represents the earliest stage forming the link between stepwells proper and this *bhramaṇī*-type stepwell. A broad descending passage leads down to the water level and a circumambulatory passage surrounds the well. The Nāvghān Kūo situated at Uparkot in Junāgaḍh still has the stepped corridor leading down, but this corridor does not descend in a straight line, but proceeds angularly as if surrounding the well. More illustrative from this point of view is the Helical stepwell where the stepped corridor is extremely short and after reaching the rim of the well, the passage leading down continues spirally at the inner side of the well. It is probably this aspect of the stairs that is alluded to in the *Viśvakarma Vāstuśāstra* by a 'coiling staircase' (see Chapter II). The next stage in this developmental formation is represented by the palace stepwell of Wānkāner, built only about 40 years ago. In this, a stepped corridor surrounds the square well fully and descends in square zigzag formation for three storeys downwards till the water level is reached. The final formation is found in the stepwells of Mehmudābād and Mandva where, instead of the stepped descending corridor, underground rooms and chambers surround the square well on all four sides for two or three storeys. Spiral staircases descend to the underground chambers.

5. Type five: With cross-shaped ground plan (Figs. 237 to 239)

Type five is constructed with a ground plan of a regular symmetrical cross, the well itself being situated in the middle, where the four arms meet (Fig. 237). In this case, the demarcation between stepwell and pond (*kuṇḍa*) is not easy to make, therefore such a type of stepwell is occasionally referred to as a *kuṇḍa* in earlier literature. The one major example of this type found in Gujarat and Saurashtra is the Caumukhi stepwell in the village of Chobari (Figs. 237 to 239). Its name itself indicates its structure which has four entrances (*cau-mukhī* in Gujarati corresponding to *catur-mukhī-vāpī* in Sanskrit). In Sanskrit classification, this type with four entrances is named *viṣayā* (see Chapter II). The descent to the water-level is by four attached lateral staircases, one each on each arm. The water level in this case is quite high, hardly one storey underground.

PART B: DESCRIPTION OF THE MONUMENTS

B.1: Type one: With straight stepped corridor and one entrance

B.1.a. With additional lateral stairs

B.1.a(1). *Aṅkol Mātā Stepwell, Dāvad* (Figs. 30 to 47, Plan I)

Location and name: Dāvad is a small village in Iḍar *tālukā* of Sabarkānthā district. It is reached by a deviation of about 22 km from the Himmatnagar-Iḍar road (at the village of Darāmli, via Jādar) and is situated on the river Dāpnol.

The name *Aṅkol Mātā* is locally given to the stepwell. The attribution is derived from the name of a mother-goddess, *Aṅkol Mātā*, who might formerly have been connected with the stepwell. Nowadays there is a shrine of *Vihat Mātā* in the stepwell, the local goddess killing the buffalo-demon.

Historical setting: In the 11th and 12th centuries, the area of Dāvad was under the supremacy of the Caulukya rulers of Pāṭan, which passed over during the 13th century to the Vāghelās who continued to rule during the 14th century. Some inscriptions on hero-stones found in the village and near the stepwell indicate that during Vāghelā supremacy in this region in the 13th century, this place was of some historical importance. The ancient name given in these inscriptions is *Dayavād*, *Drāvad* or *Devapaṭṭan*. It is believed that the large square tank, called *Hansaldeśvar*, situated some kilometres to the north of the village, was built by Queen *Hansalde* during the reign of her husband, *Siddharāja Solāṅki*.¹ Several carved stones from a Jaina temple and some Jaina images were found in this village. Even today this place is considered to be a place for pilgrimage for the Jains.

General architectural structure: The stepwell is situated on the eastern outskirts of the village. Its general architectural structure corresponds to the first class of stepwells of the classical *śilpa*-texts having one entrance and three pavilion-towers (*trikūṭa*).

Because of its architectural structure, this stepwell represents a very interesting and rare variation of type one. The descending passage is made of two systems: the usual parallel steps and also lateral stairs attached at various levels within the stepped corridor.

The stepwell is laid out in a north-south direction, the well being in the south and the entrance being in the north. It has three pavilion-towers having one, two and three storeys underground (Fig. 30). The last one is being directly associated with the well. The overall length from the beginning of the steps to the end of the corridor is 30 m. The breadth of the stepped corridor varies, diminishing from storey to storey. The breadth above ground level is tapering off in three stages (Fig. 30), beginning with 7.80 m at the entrance. The breadth in the first pavilion measures 6.75 m, in the second pavilion it is 4.60 m and in the third

3.50 m. The first set of stairs to descend from the ground level to the first level does not extend over the full breadth, but occupies only the middle of the corridor, being only 2.75 m.

Structural elements: the stepped corridor: The stepped corridor descends in a straight line until the third storey underground (Plan I). It starts with a projected stairway of five steps, which is less broad than the corridor itself and opens into a narrow platform, from where the set of stairs with laterally attached steps leads down to the next platform. The steps are not of equal level, but made of staggered stone-blocks (as illustrated in Fig. 34). This set of stairs leads downwards on both sides onto a second platform, from where again a set of stairs descends further, this time two stairs, one each attached to the sides of the stepped corridor directed inwards. The last landing of this second set of stairs is continued by two steps going across the full breadth of the corridor, now reaching the floor of the first pavilion. The descending system between the first and second pavilions follows the same pattern as described before.

Structural elements: the pavilion tower: The first pavilion has two storeys, one above and one below ground level (Figs. 31, 39). This pavilion is profusely sculptured at pillars, brackets and the outer wall built of *rājasenakā*, *vedikā* and *āsanapaṭṭa*. These carvings, reflecting the pure Māru-Gurjara style of the 11th century, make this stepwell one of the most important monuments of Gujarat. The second pavilion (Figs. 32, 33) with two storeys underground and no storey above, houses a shrine of a local goddess killing the buffalo-demon. This shrine (Fig. 33) is newly attached to the original eastern niche in the first floor, and the sculpture is worshipped to the present times. The niche opposite, at the western side, is to be seen in its original shape. A concrete passage approaches the shrine leaving gaps at the sides open in order to give way through the staircase to the second storey underground. The third pavilion is directly adjacent to the well, having three storeys underground.

The floors of the pavilions are resting on four pilasters and four pillars (Fig. 32), only the third pavilion is smaller, having only four pilasters bordering the space.

The upper storey of the first pavilion-tower is the most decorated part in the whole stepwell (Figs. 36 to 43), its style of sculptural work and its fineness in decorative details reminding one of the Sun temple in Modherā (Fig. 11). The sculptural work is on both the outer facades of the pavilion, i.e., the northern and southern sides. The inner room of the pavilion is plain except the *ghaṭapallava* type of pillars with figurative brackets and the ceiling. Whereas the long facades, i.e., on the northern and southern sides, are open and separated by pillars to form windows, the short sides have finely carved perforated screens and sculptured doorframes (Fig. 31), surrounding the openings for the doors on both sides.

This pavilion seems to be structured as three cubical cells attached to one another in a line. Each of the three cells is covered by a domical roof (Fig. 30) and they are partly in a dilapidated condition. The division into three is often found in the pavilions of stepwells, for example, in Dhandhalpur (Fig. 155).

Structural elements: the well: The well has a diameter of 4 m. The inside wall is built of large stone blocks, with rows of alternating layers. There are no figurative designs ornamenting the wall. Projecting struts (*maḍala*) were originally used as a device for hauling up water. These struts are made of plain stone blocks.

Structural elements: pillars and pilasters: The pillars are of two types, (a) plain at base and shaft but with figurative brackets (Fig. 32) and (b) highly ornamented of *ghaṭapallava* type (Figs. 36, 39). Both types are of the *miśraka* (i.e., mixed) order, i.e., square at the base, turning eight- and sixteen-sided in the middle section and becoming round at the top. This type of pillars is also found in the Sun temple at Modherā. The *ghaṭapallava* pillars only appear in the top pavilion of the first pavilion-tower, all the other pillars and pilasters are of the plain type. These latter are ornamented in the following way: the square base (*kumbhi*)

has a triangular scroll-design motif at each side. Two projecting mouldings separate the *kumbhi* from the shaft of the pillar (*stambha*). The shaft is made of three parts: a square, an octagonal and a sixteen-sided section. A small leaf-design is found at the four corners of the square section of the shaft. Over the ledge-like upper moulding of the shaft (*bharani*) is found the capital (*śiras*) which has moulded brackets shaped like human figures in various formations and poses called *kicaka*, *kumōra*, or *grāsamukha*. The *ghaṭapallava* pillars (Fig. 64) are quite short as they only start from the stone-seat, *āsanapaṭṭa*. The *kumbhi* is decorated with a semi-circular medallion of scroll design over which the *ghaṭapallava* is placed. The eight-sided *stambha* is decorated with a horizontal band, which is from bottom to top: *mālā* (garland), *ra'na* (diamonds) and *grāsapaṭṭikā* (band of lion-faces). The two *bharani* plates are carved with ribbed design. The bracket figures are carved in the same way with human figures as in the case of the plain pillars. The pilasters in the pavilions in the first and second storeys are of the *bhadrakā* order, i.e., square with recesses, as also found in the Sun temple at Modhera.

Sculptural and decorative ornamentation: at niches

The walls around the niches are plain. The niches (*kūlikā*—Fig. 33) are placed in the middle of the sidewalls in the first storey of the first and second pavilion towers (*kūṭa*). The eastern niche in the second *kūṭa* houses a shrine of the local goddess Vihat, iconographically shown as the 'Goddess killing the buffalo-demon', which corresponds to Mahiṣāsuramardini of classical iconography. The basement of the niche is made up of various mouldings of *jaḍyakumbha* (inverted moulding), *karṇakā* (knife-edged convex moulding) and *maṇipaṭṭikā*. The niche is crowned by a pediment (*udgama*), which forms in horizontal tiers a stepped pyramidal roofing. A small framed niche (*rathikā*) with tiny images of deities is projecting in the middle. The sequence of mouldings of the niche reflects those of the basement of the Māru-Gurjara temple.

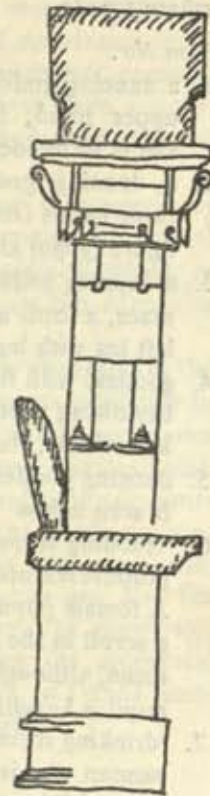
Sculptural and decorative ornamentation: in the upper pavilion of the first kūṭa (Figs. 36 to 43)

The outer façades of this upper *maṇḍapa* are built up of three structural and ornamental parts. Structural, because they reveal the architectural mode of construction of this pavilion. These parts are (from bottom to top): *rājasenakā* (horizontal slab), *vedikā* (balustrade above *rājasenakā*) and *āsanapaṭṭa* (stone slabs used for sitting above the *vedikā*). The sloping backrest, *kakṣāsana* or *maṭṭavarāṇa*, is attached to this *āsanapaṭṭa*, on which the pillars are also resting. The same composition is typical for the surrounding wall in the dancing halls (*raṅgamaṇḍapa*) of Māru-Gurjara style.

The same structural divisions are revealed also in the outer ornamental panels of the northern and southern façades. In each horizontal division there are five niches or compartments with figurative scenes (Fig. 39); some parts, however, have broken off so that the full number of scenes is not complete. In the *kakṣāsana* the figurative scenes are separated from each other by vertical compartments with alternating pillar-like designs (*stambhikā*—Fig. 36) and floral designs. The floral designs have a medallion (*vr̥tta*—Fig. 39) in the middle filled with floral scrolls, *mīthuna* (couples) and *grāsamukha* or *kīrtimukha* (fancy faces). This relief panel is bordered on each side with a narrow band of scroll motif in two different designs. The *rathikā* in the *vedikā* (Fig. 40) are elaborate niches with full frames (*parikara*) consisting of *pīṭha* (plinth), two round pilasters, *chaḍya* (shed-like ledge) and pediment (*udgama*). The *udgama* is a tapering crowning over the niche with *jāla* (lattice-work) which is found as a special feature all over Western Indian temples. It appears from the Maitraka period onwards, where its origins from the *caitya* dormer motif are still clearly recognisable (Fig. 27), to

the Māru-Gurjara period, where it is a minute pattern of scroll-like and arch-like forms (Fig. 9). The top of the pediment reaches into a horizontal band with alternating *grāsamukha* and *kūṭakāra* motifs (of domical hut-like shape—Fig. 40). The *rāthikā* in the *vedikā* are separated by elongated segments (*phalaka*—Fig. 40) alternating with pillars of *ghaṭapallava* type (*stambhika*) and scroll designs. The latter are miniature replicas (*stambhika*) of the *ghaṭapallava* order with all its parts even the half-circular medallion with depictions of animals, two geese (Fig. 40), *kīrtimukha* and scrolls at the plinth. Each of these *ghaṭapallava* sections is crowned by a miniature *jāla*-pediment topped by the *kūṭakāra* motif of the horizontal band. The *rājasenakā* is divided from the *vedikā* by a *chaḍya* under which its vertical segments continue, the *ghaṭapallava* segment as a combination of scroll and *ratna* (diamond) motifs and the scroll segment as full *ratna* motif. At the bottom is again a *chaḍya* projecting in three tiers.

The scenes in the niches and compartments of the southern façade are as follows (numbered each from left to right, i.e., eastern to western side, and in the following sequence, middle, bottom, top):



Southern façade

Section No.

1. broken off
2. a dancing goddess with four hands holding an hourglass-shaped drum (*ḍamaru*) in one upper hand, having a bull (not exactly identifiable) as her vehicle, other objects are unidentifiable. She could be identified as Bhairavī or Cāmuṇḍā
3. a deity probably also a goddess having four arms, in *lalitāsana* posture (or *ardhaparyāṅkāsana*), i.e., sitting on a low stool with one leg hanging down; the attributes in the hands are not identifiable
4. a standing goddess with four arms, a small worshipper kneeling at her feet
5. broken off
6. broken off
7. a woman serving water from a pot (*loṭā*) to a sitting couple (*mīthuna*)
8. four human figures with sticks in a fighting pose. Such fighting scenes occur often in stepwells (for example, in Sāthamba, Aḍālaj)
9. *māithuna* (intercourse) scene (Fig. 43) with two animals and two human figures
10. broken off
11. broken off
12. *māithuna* scene, one couple is standing, the other is sitting on a double pillow
13. scene with three human figures, one of the women carrying a water pot (*loṭā*) in her raised hand
14. *māithuna* with women and a monkey (Fig. 40)
15. *māithuna* scene (Fig. 42) showing orgiastic activity

Northern façade

Section No.

1. a dancing goddess in *talasaṃsphotita* dance-pose with four arms, holding *śaṅkha* in one upper hand, below are a figure and a squatting animal. Because of her conch attribute, she is to be identified as a Vaiṣṇava deity
2. a dancing goddess in *talasaṃsphotita* pose with six arms (Fig. 37), her body being in three bends (*tribhaṅga* pose) and elaborate head-crown (*kīrtimukuta*); a dancing dwarf-figure (*gaṇa*) also in *tribhaṅga* is placed below
3. a dancing goddess (in *talasaṃsphotita* pose) with four hands, holding in the left hand a mace, a lotus and a *śaṅkha* (not clearly identifiable); a kneeling figure is embracing her left leg with both arms; another figure is placed opposite, now in a dilapidated condition
4. goddess with four arms (Fig. 41) holding a mace in her right upper hand, and in boon-bestowing posture (*varadā-mudrā*) in her right lower one, sitting in *ardhaparyāṅka* pose on her vehicle, the bull
5. dancing goddess in *kaṭisama* dance pose with four arms, an animal which is unidentifiable is seen below
6. 'teaching scene' (Fig. 38). The teacher, recognised by his pointed beard (the usual iconographic feature of a *guru* or *ṛṣi*) is sitting in front of a relatively huge triangular bookstand. A female pupil behind him is touching his neck. The figure on the opposite side is holding a scroll in the form of a long stick. Another scroll is also placed on the bookstand. The scene, although depicting a serious incident, is not without comedy in the fact that the pupil is kneeling behind his teacher's neck
7. 'drinking scene'. A couple sitting close to each other on a low stool is served by a standing woman who is pouring out something to drink from a voluminous ewer into a cup. The man with an extremely stout figure is holding the cup in his right hand
8. *maithuna* with seven people
9. dancing woman and musicians (Fig. 41)
10. three acrobats in action
11. broken off
12. a stout male figure with female attendants (it could be Kubernāth with his attendants)
- 13 to 15. broken off

The sculptures done in low relief are carved extremely naturally with esprit, humour and wit, as also met with in other temples of the same Māru-Gurjara period in Saurashtra and northern Gujarat, like the Sun temple in Modhera (Fig. 11) and the Navalakha temple in Ghumli (Fig. 10). Looking at the 'teaching scene' (Fig. 38—northern façade, section 6), the 'drinking scene' (northern façade, section 7, and also southern façade, section 13), the fighting or acrobatic scenes, the capability of the stone-mason to render human action into stone is felt at once. Most remarkable are the erotic scenes which are many in this stepwell. There are orgiastic scenes (Fig. 42—southern façade, section 13) and those with ithyphallic exposition (northern façade, section 8), scenes with amorous play between women and monkeys (southern façade, section 14) and with intercourse between animals and women (Fig. 43—southern façade, section 9). Erotic scenes appear in the same location on the *kaṭṣāsana*, *vedikā* and *rājasenakā* of the dancing hall (*raṅgamaṇḍapa*) of the Sun temple in Modhera (Fig. 11) and on the pillars in the entrance hall (*mukhamaṇḍapa*) in the same temple. The depictions of erotic scenes served as an auspicious motif, in the same way as on the temples in Khajurāho, the Orissan temples, the Limbojīmātā temple at Delmal (in Mehsana district) and the Nīlakaṇṭha temple at Sunak (near Baroda), for example.

The door-fronts (Fig. 31) of the upper *maṇḍapa* of the first *kūta* are ornamented with *ghaṭapallava* pillars at the corner, a vertical screen of perforated squares and doorframe itself (*dvāraśākhā*). The jambs (*peḍya*) have three framing panels (i.e., they are *tri-śākhā*) crossing over the lintel (*uttarāṅga*), the middle of which is occupied by an image of Gaṇeśa in a niche. At the bottom, the *peḍya* starts from a niche with two figures (may be derived from *dvārapāla*, the door-keeper, of the Mahā-Gurjara tradition).

The stone-screen between pillar and doorframe on both sides is made of four vertically arranged squares. Each of them has a perforated chequered design, with alternating horizontal or diagonal lines. The cubes are carved as flowers. Such perforated screens already appear in the Mahā-Māru tradition, also bordered by *ghaṭapallava* pillars, for example, in the Mahāvira temple in Osia of the late 8th century and in the Vimala Vasahi at Mt Abu.

Dating: Considering the close similarity of structural as well as stylistic elements in the Aṅkol Mātā stepwell and the dancing hall of the Sun temple in Modhera, it seems justifiable to date the stepwell of Dāvad in the reign of Kaṇadeva (i.e., 1066-94). The structural semblance is to be seen in the sequence of *rājasenakā*, *vedikā*, *āsanapaṭṭa* and *kakṣāsana* (*maṭṭavarāṇa*). Among the ornamental designs, the *ghaṭapallava* pillar is the most obvious parallel, the elements of which are alike: the ribbed vase, the ribbed round cornice underneath it, the scrolls evolving out of the vase with horizontal bands in scroll, *ratna* and *kīrtimukha* designs, the exquisitely ribbed *bharaṇi* in two tiers and the figural capitals, for example. Very much alike are also the ornamentations on the *kakṣāsana* in their scroll-bands and sculptural scenes of musicians, fighters and erotism. The workmanship of the sculptures displays a deep feeling for movement and naturalism; in both examples one sees the same quality so that the placing of Dāvad stepwell chronologically near to that of the dancing hall in Modhera seems justified.²

B.1.a(2). Rāṇī Stepwell, Pāṭaṇ (Figs. 49 to 64)

Location and name: Rāṇī Vāv is situated in the ancient city of Pāṭaṇ, formerly called Aṇāḥilvāḍa or Aṇāḥilapūra. Pāṭaṇ is now a small town in northern Gujarat in Mehsana district. Rāṇī Vāv is located in the ancient site of Pāṭaṇ a short distance to the north-west of the present town of Pāṭaṇ, near the ancient fort, being at the southern bank of the Sarasvatī river. The Sahasraliṅga tālāo is very close to Rāṇī Vāv. The Rāṇī stepwell derived its name from its builder-patron, the queen of Bhimadeva, Udayamatī. The queen is addressed as 'Rāṇī'.

Historical setting

Aṇāḥilvāḍa is said to have been founded in A.D. 746 by Vanarāja the first ruler of the Chāvaḍa dynasty. Up to the 10th century, the Chāvaḍas were ruling over northern Gujarat. In 946 the power passed on to King Mūlarāja, the founder of the Caulukya dynasty who is popularly known as Solaṅki.

Mūlarāja, even if occupied with consolidating his power and supremacy, started patronage and activity of temple construction³ which intensified the evolution of a new style identified with the Solaṅki style now known as Māru-Gurjara style.

The descendants of Mūlarāja ruled practically all over Gujarat and Saurashtra till the middle of the 13th century, when the power passed on to the Vāghelās, a side branch of the Caulukyas, who were finally defeated by the Muslim rulers at the end of the 13th century (with Alap Khan, commander of Allauddin Khilji, in 1293).⁴ Bhimadeva was the first powerful overlord of the Caulukya (ruling from 1022) under whose reign manifold building activity was patronised (for example, his minister Vimal Shah built the Rṣabhanātha temple on Mt Abu and the temples in Kumbharia)⁵ and his wife Udayamatī is said to have built the famous stepwell of Pāṭaṇ known

as Rāñī Vāv. His successors Karnaḍeva, Siddharāja, Jayasinhha, Kumārapāla and Bhimadeva II continued the supreme overlordship over politics and art-activities which reached their zenith during Siddharāja Solanki's reign.

General architectural structure

From its structural parts, it becomes obvious that the Rāñī stepwell belongs to type one of the category with the straight and additional lateral staircases (Fig. 51). Because of this feature and because of the very broad stepped corridor, one is immediately reminded of a *kuṇḍa*, especially when the Rāñī stepwell gets filled up with water up to the edge. The Rāñī stepwell somehow forms the intermediate link between the architectural structure of a *kuṇḍa* and that of a stepwell. When Cousens and Burgess saw the stepwell in Pāṭaṇ, it was completely filled up with earth and only the back wall of the well was visible, which they called a huge pit, 285 feet in length, with the portion of the masonry of the well shaft at one end and the fragments of a pillar at the other.⁶ An early account of Rāñī Vāv is found in James Tod's *Travels in Western India*,⁷ stating that the material from this stepwell was taken to build another one in the modern part of Pāṭaṇ which is probably to be identified with the Bahadur Singh stepwell, as also observed by Cousens and Burgess⁸ (Fig. 242).

The Rāñī stepwell is laid out in an east-west direction, the well being in the west and the entrance in the east. The stepwell is in a dilapidated condition. The surviving parts, however, reveal that this monument must have been once the most elaborate and well conceived structure in point of architecture and ornamentation. The parts which are still intact are the entrance staircase, the sidewalls of the stepped corridor, some *maṇḍapa* in the stepped corridor and the back wall of the well. One can still observe that the stepped corridor was tapering in its section (Fig. 50), i.e., it was broader at the top and diminishing in breadth in the lower storeys. The entrance staircase (Fig. 51) reveals the same set-up as found in Aṅkol Mātā stepwell in Dāvād with lateral staggered stairs in addition to the parallel descending steps which occupy the entire breadth. Most likely a *maṇḍapa* was built over the first landing of the entrance staircase, as the three pilasters on both sides of the wall and the numerous stone blocks and slabs lying on the spot would indicate. The bays in between the pilasters were embellished with sculptures resting on a projecting ledge.

The stepped corridor becomes broader after this first landing and narrows again at the end, where the well starts. Five lateral staggered stairs lead down from this platform to the lower-level ledges run along the sidewalls, the sculptured niches of which catch the eye of the visitor. Narrow staircases attached to the sidewalls lead from one storey to the next. The last two *maṇḍapa* in the stepped corridor are still remaining (Fig. 49), although the upper storeys are broken. The last *maṇḍapa* which is adjacent to the well is a narrow structure in between two rows of two pillars each. The other *maṇḍapa* has four pillars in a line. The *maṇḍapa* do not extend over the entire breadth of the stepped corridor but only its middle part, a concrete wall of the breadth of the *maṇḍapa* is introduced to link the pavilion with the stepped corridor. This well is entirely covered on its sides with sculptures of deities in recessed and projected niches (Figs. 58 to 64).

The wall of the well (Figs. 52, 53, 54, 55) is the part which is most profusely ornamented.

The central point in each storey is marked by a prominent sculpture (Fig. 55). Eight huge struts which extend vertically over the entire storey are projecting from the wall. The struts are made of five sections, each section being curved in ogee-shape. The struts are entirely carved in low relief. Horizontal rows with figurative and geometrical or floral motifs alternate with pilaster-like sections lined up in a row (*stambhika* motif—Figs. 53, 54). The *stambhika* motifs show abstract dwarf-pilasters, with over-proportionate capitals with leaf patterns and with a base having a huge *kīrtimukha* on it (Fig. 53). The voluptuous scroll at the curves of

the struts evolving in numerous leafy branches out of one spot resembles that in the Vimala Vasahi temple of Mt Abu, which is of the same age. The *stambhika* also have figures of women in various postures (Fig. 54), which are found also in the Ra Khengar stepwell (Figs. 226, 227) dated two centuries later. The figurative bands depict fighting scenes, horse riders, circus and acrobatic scenes (Fig. 54). The walls in between the struts are divided into horizontal rows of various heights (Fig. 54), the major ones have niches with godly figures with their consorts (Fig. 56) like Brahma and Brahmanī, Śiva and Pārvatī, Bhairava and Kālikā, Viṣṇu and Lakṣmī. Other horizontal courses depict the Saptamātṛkā with Gaṇeśa and Bhairava in niches or the *aṣṭadikpāla*. Smaller bands are sculptures with human activities, like dancing and musical scenes, girls applying cosmetics and erotic scenes (Fig. 55). The full-sized sculptures of this stepwell are taken from the entire range of the Hindu pantheon, for example, Viṣṇu and Śiva (Fig. 60) and their various aspects appear with or without their respective consorts. The figures include Śeṣaśāyīn Viṣṇu (Fig. 59), Bhairava, Gaṇeśa, Kubera, Lakulīśa, Sūrya, Brahma (Fig. 64), Indra, Hayagrīva, Lakṣmī Nārāyaṇa, Viśvarūpa Viṣṇu (Fig. 63), goddesses, etc. The female figures (Figs. 59, 60, 61) depict various scenes and poses, being either Apsaras or Surasundarī or Vidyādevī.

Dating of Rānī Vāv

Cousens and Burgess ascribe to the construction of the Rānī stepwell the same date as the building of the Vimala Vasahi temple of Mt Abu, i.e., 1032, because the style of the last pillar corresponds with that of the columns in that temple.⁹ In recent studies its attribution to the reign of Karnaḍadeva (1064-94) is made more plausible, on the grounds of stylistic closeness of this stepwell with the temple of Sunak and the dancing hall of the Sun temple in Modhera, the date of which has been established to be the early years of Karnaḍadeva's reign.¹⁰

B.1.a(3). Mātā Bhavānī Stepwell, Ahmedabad (Figs. 65 to 67)

Location and name: The Mātā Bhavānī stepwell is situated in Āsarvā, a suburb of Ahmedabad. It lies in the vicinity of the Dādā Harīr stepwell. It derives its name from a small shrine to the mother-goddess Mātā Bhavānī which is built in the stepwell.

Historical setting: Ahmedabad is believed to be built on the ancient site of Karnaḍavati, a place founded by the Caulukya king Karnaḍadeva (1064-94).¹¹ However, the exact identification of this place is not yet established, but it is believed that the building of this stepwell falls within this political period, which would mean that what is now Ahmedabad was under the supremacy of the Caulukyas towards the end of the 11th century.

General architectural structure

The Mātā Bhavānī stepwell is a simple and unpretentious monument. It is of moderate size and has little sculptural ornamentation or relief-work. However, the architectural structure is interesting, because of its double system of stairs (Fig. 67) like those at the Aṅkol Mātā and Rānī stepwells. Another very important feature is its square pool in front of the actual well (Fig. 65) which is usually a part of larger stepwells only.

The Mātā Bhavānī stepwell is about 46 m in length and the stepped corridor at the entrance level 5.10 m. The diameter of the well is 4.80 m. The stepped corridor descends for three storeys downwards and there are three pavilion-towers, so that it could be assigned to the *nandā* class of the ancient *śilpa*-texts. One pavilion crowns each pavilion-tower above ground level (Fig. 66). It seems that this stepwell had an entrance with three stairs, like that of the village Adālaḥ (Fig. 66). Two stairs to each side of the stepped corridor are still recog-

nisable, the third one, exactly in front of the corridor, is built over with a row of huts where it seems people have been living for generations. A shrine is built in the second storey of the third *kūṭa* (Fig. 65), consisting of two major parts, the *garbhagrha* and the *mukhamandapa* as a temple would have. In this stepwell the *mandapa* of the shrine is occupying the *mandapa* of the pavilion-tower (*kūṭa*), whereas the shrine itself is placed over the well, the most sacred part of a stepwell.

The top floors crowning the pavilion-towers (Fig. 66) are approached by flights of steps at the ground level attached to each side, the lower storeys are otherwise only reached through the stepped corridor; there is no arrangement within the pavilion-towers themselves, no steps in the *mandapa* connecting the storeys, nor spiral staircases outside it. The pool (Fig. 65) is of square shape having concentric rings of steps descending to the water level. The levels of these rings are connected with stairs of four or five steps.

Structural elements: the stepped corridor: The breadth of the stepped corridor is tapering from the top storey to the bottom which is revealed in the section of the stepwell, but not in the ground plan, as also, for example, in the Aṅkol Mātā stepwell. There as well, the ground plan shows the tapering plan while proceeding from the first to the third pavilion-tower, while the ground plan of the Mātā Bhavānī stepwell shows the same breadth along the whole length of the stepped corridor, i.e., the corridor is as broad at the entrance as at the last pavilion.

Structural elements: the pavilion-tower: The crowning pavilions above ground level are reached by a flight of four steps each, which have a projection in the centre (Fig. 66). The floor of this pavilion is about 80 cm below ground level. The pavilions in this uppermost floor are marked by three rows of four pillars each (Fig. 66), the four corner ones being exchanged by pilasters in the lower storeys (Fig. 65). The third pavilion-tower, however, is spacewise intended to be constructed in the same way, but actually is of less breadth and enclosing only the space in between two rows of pillars. Towards the third row, only the middle passage is kept open as a passage of 1.80 m in breadth called 'neck' by Burgess and Cousens,¹² while the side ones are completely built up with walls (Fig. 66). This middle passage is directly facing the centre of the well. It is here that the articles of ritual and worship are kept and where the priest sits. The *kaśāsana* facing the stepped corridor on both sides are covered with ornamentation (Fig. 65).

Structural elements: the well: The diameter of the well at ground level with the bordering parapet-wall is about 5.70 m and without it 5.40 m. In the third storey underground, the diameter is 4.80 m. If one draws a section through the well, the tapering structure is most obvious, which is also seen in the stepped corridor.

A small shrine is built in the second storey at the back wall of the well (i.e., the western end—Fig. 66). It is a narrow structure resting on a platform which is supported by brackets. This shrine could be identified with the *garbhagrha* of a temple and the *mukhamandapa*, i.e., the gathering place of worshippers, is in the pavilion-tower just in front of it. Just below ground level are three pairs of brackets which earlier must have been supporting the device for hauling up water by buckets.

Structural elements: pillars and pilasters: The pillars and pilasters (Fig. 65) are throughout this structure of the very plain *rucaka* order, which is rarely found in the Māru-Gurjara tradition, but conventionally employed in earlier periods, for example, it is found in the Maitraka and Saindhava temples. The pillars are square at the base, divided by a cornice moulding from the lower part of the shaft which is also square; the middle part of the shaft is octagonal and gradually turning round. An unostentatious *bharanī* is supporting the capital which has a plain volute motif as brackets. There is no ornamentation whatsoever on the base, shaft or brackets of the pillars.

Sculptural and decorative ornamentation: The ornamentation here is very moderate. The only parts with some kind of sculptural or low-relief work are the sloping backrests in the

uppermost pavilions (*kakṣāsana*—Fig. 65), the eaves of the roofing and the *parikarma* around some niches. The niches themselves are all empty at present. Niches are found between bays between the pilasters in the first storey of the first *kūṭa* and the second storey in the second *kūṭa*. As the whole structure, being a religious place, is nowadays plastered all over with a thick layer of white paint, the reliefs of the *parikarma* are hardly recognisable. One can make out that the pediments (*udgama*) are in low relief and are in the form of a stepped pyramidal crowning with *jāli*-design.

The walling of the topmost pavilions towards the stepped corridor (Fig. 66) on both sides is similar in its structural composition to that of the Aṅkol Mātā stepwell, comprising *rājasenakā*, *vedikā*, *āsanapaṭṭa* and *kakṣāsana*. All the parts are divided into vertical sections (*stambhikā*) displaying varied designs. The scroll and floral motifs are very similar to that of the Dāvad stepwell, the point of divergence is the dominance of non-figurative designs in the Mātā Bhavānī stepwell. The only figurative motifs are medallions made up of *grāsamukha* in the *stambhikā* of the *kakṣāsana* and the *vedikā*. The entire ornamentation in this stepwell is in low relief and does not give any impression of plastic rendering of panels as, for example, in the Aṅkol Mātā stepwell.

The *kakṣāsana* (Fig. 66) is bordered by two horizontal bands with a scroll-design. The middle portion is embellished with alternating pillar-motifs (*stambhikā*) and medallions. The horizontal band on the *āsanapaṭṭa* below the *kakṣāsana* is made of alternating *grāsamukha* and *kūṭakāra* motifs. The pilasters of the *vedikā* show alternating patterns of scroll and combined motifs. The combined motif is made of abstract *ghaṭapallava*, scroll, *grāsamukha* and unidentified designs. The vertical sections continue in the *rājasenakā*, the *ghaṭapallava* pillarette continues as scroll-and-ratna motif, the scroll section as full *ratna*, diamond-motif.

The flat roofing over the pavilions possesses a *daṇḍachāḍya* (Fig. 66), projecting eaves with marked joints going all round. In the corners, figures of squatting lions are placed, embellishing the outlets for water. These figures are in no case as ancient as the structure of the Mātā Bhavānī stepwell.

Dating: Considering the ground plan and structural elements of this stepwell, it seems that it belongs to the 11th century,¹³ being a parallel, but smaller example of the Aṅkol Mātā stepwell. On the other hand, it appears that the pavilions crowning the pavilion-towers and their ornamentation are a later addition or were rebuilt later. The ornamentation on *kakṣāsana*, *vedikā* and *rājasenakā* gives the impression of being made later than the 11th century, although an attempt was made to copy the earlier designs and compositions carefully. The sculptural work in the Mātā Bhavānī stepwell is too flat, lifeless and unnatural compared to its parallel in Dāvad. The workmanship is inferior to that in Dāvad displaying much less fantasy in the rendering of the motifs. The dominance of non-figurative motifs and the application of the squatting lions of stereotyped formation could be a hint that the uppermost pavilions were added or rebuilt after the Muslim period.

B.1.a(4). Bātris Koṭha Stepwell, Kāpaḍvañj (Figs. 68 to 71)

Kāpaḍvañj is a town in Kāpaḍvañj *tāluka* of Kairā district. The stepwell is located in the middle of the town. The name which is locally attributed to the stepwell means 'the stepwell with 32 *koṭha*, storeys'. There are other stepwells in Kāpaḍvañj, for example, the Benjirāj stepwell situated outside the town and the Vaijnāth stepwell in which the mother-goddess is worshipped with earthen pots, and is also called Siṅgrāñī stepwell which is known for its quality to brighten silks in olden times.¹⁴ However, these stepwells are in a dilapidated condition.

The Bātris Koṭha stepwell is of early formation, with lateral staggered stairs (Fig. 70) in addition to the parallel descending steps. It is impossible to say how many *kūṭa* this stepwell

originally had as the monument is in a broken down condition and a street and some houses were built over the entrance-part of the stepped corridor.

The last pavilion adjacent to the shaft of the well (Fig. 69) is intact. The pavilion occupies the space in between four pilasters and four pillars. The construction of the *rājasenekā*, *vedikā*, *āsanapaṭṭa* and *kakṣāsana* (Fig. 71) is in line with the tradition of the Aṅkol Mātā and Mātā Bhavānī stepwells in Dāvād, resp. Ahmedabad. Although the architecture displays an early feature like staggered stairs, the ornamentation (Figs. 68) on pillars, brackets and the parapet-wall of this stepwell could be ascribed to the 13th century.

B.1.b. With both supporting structures, the pavilion-towers and intermediate frameworks (Figs. 72 to 120)

B.1.b(1). Dādā Harīr Stepwell, Ahmedabad (Figs. 72 to 82)

Location and name: The Dādā Harīr, or also called Bāi Harīr, stepwell is situated in a suburb of Ahmedabad, Āsarvā, which is to the north-east of the old city. This stepwell derived its name from the patroness, Bāi or Dādā Harīra, who is said, according to the inscription, to have built this stepwell (see Appendix 2). In an early account of the beginning of the last century, this stepwell was called 'Nurse's Well' by literal translation of patroness's title given in the inscription.¹⁵

Historical setting: The construction of the Dādā Harīr stepwell fell in the reign of Sultan Maḥmud Begarah, earlier known as Fath Khan. He was born in A.H. 849 (i.e., A.D. 1446), and ascended the throne in Ahmedabad at the age of 13 in 1458-59 (A.H. 863). He ruled firmly for 54 years and died at the age of 67 in the year A.H. 917 (A.D. 1511).¹⁶

General architectural structure: The stepwell is laid in the east-west direction, the well being at the western end, and the entrance in the east. It has five storeys and five pavilion-towers. Two intermediate frameworks support the sidewalls at the fourth and fifth staircases. The structures above ground level (Figs. 72, 73) are limited to the entrance pavilion (*mukha-maṇḍapa*), two small canopies (Fig. 78) over the entrances of the spiral staircases at the fifth pavilion-tower and the low parapet-wall surrounding the stepped corridor, the octagonal shaft and the well.

Structural elements: the stepped corridor: The stepped corridor measures 72.5 m from the head of the stairs to the back wall of the well. It descends in a straight line to the fifth underground storey. The breadth of the corridor does not diminish, but remains the same throughout its descent. But there is a difference of 60 cm between the breadth of each staircase and that of pavilion (Figs. 72, 73), i.e., each staircase is 5.40 m broad and each pavilion is 4.80 m broad. There are two intermediate supporting frameworks between the third and fourth pavilion-towers and between the fourth and fifth pavilion-towers.

From the pool (Fig. 74) at the bottom level an arched doorway leads to the shaft of the well in a solid structural wall. Neither this pool nor the arched doorway was noticed by Burgess,¹⁷ as the entire fifth storey was completely submerged at the time of his survey of this monument. Nowadays the stepwell is completely dry, as the ground water level in Ahmedabad has fallen due to excessive withdrawal of water by the industrial establishments.

Structural elements: the pavilion-tower: The sequence of pavilion-towers (*kūṭa*) is irregular, as the *kūṭa* are not of the same dimensions and shape. The entrance pavilion is on a raised platform to be reached by 10 steps and its domed roof is supported by 12 pillars (Fig. 72). *Kūṭa* one consists of only one storey underground being a pavilion with 8 pilasters and 8 pillars (two rows of 4 each). *Kūṭa* two is a small structure with four pilasters and four pillars, having now two storeys. *Kūṭa* three and four are again of the type of *kūṭa* one with 8 pilasters and 8 pillars, but having three and four storeys. Between these *kūṭa* and the next one, additional supporting frameworks are introduced. As the stepped corridor is as broad as the entrance staircase,

but having already descended three and four storeys deep, it was necessary to introduce these supporting structures in order to cope with the thrusts of the sidewalls. The distance between a *kūṭa* and the framework in each case is only 1.20 m. These structures are raised to the ground level forming a network of horizontal and vertical beams with empty spaces in between. These frameworks are made of double pillars resting on a common oblong base and crowned by a double capital with pairs of brackets projecting on each side. *Kūṭa* five (Fig. 74) is the most elaborate structure. It is adjacent to the well, and connected to it by a narrow neck which is about 2 m broad. It is an 'inverted' tower of pavilions with five storeys: inverted, because normally a tower is an enclosure made by walls in an open space, whereas in the stepwell the space is the open shaft enclosed by the pavilions. The octagonal shaft is surrounded by a ring of 8 pillars connected by a low parapet wall consisting of a stone bench with a sloping backrest (Fig. 74). The structural parts of these are comparable with the *rājasenakā*, *vedikā* and *kakṣāsana* in the Aṅkol Mātā stepwell and other stepwells and temples of the earlier times. *Kūṭa* five already anticipates the sacredness of the well part, comparable to the *garbhagrha* in a temple, by its elaborate structure and ornamental detail. In its elements, *kūṭa* five is similar to the *mukhamanḍapa* of a temple. The narrow neck dividing *kūṭa* five from the well is similar to the vestibule (*antarāḥ*) in a temple, leading from the *mukhamanḍapa* to the *garbhagrha*. A stone bench with a sloping backrest in each storey acts as a parapet wall at the end of the 'vestibule' overlooking the deep shaft of the well.

On both sides, but outside the area of the stepped corridor, spiral staircases, one on each side, lead from the top level down to the water level passing through all the five storeys. The entrance to each storey is through an arched door (Fig. 76), as is seen frequently in the *mihrab* (i.e., the niches for prayer in the west wall facing Mecca) in the mosques of Ahmedabad. The entrances to both spiral staircases on the ground level are protected by small canopies with four pillars and a domical roof (Fig. 78).

Structural elements: the well: In the inside wall of the well at each storey, one small niche (Fig. 80) is introduced at the centre of the back wall. These niches are elaborately carved and ornamented at lintels, pilasters and pediments. Inside the niches, there are intricately designed scroll-motifs (Fig. 80). As this well was built under Muslim patronage, figurative motifs are fewer, although the existing ornamental horizontal bands with animal-decorations like geese, peacocks, elephants, horses and lions divide the circular wall of the well into various sections (Fig. 79). At the topmost storey, an arch (Fig. 80) supports a platform, where formerly the device for hauling water by buckets had been installed.

Structural elements: pillars and pilasters: Pillars and pilasters (Fig. 76) in this stepwell are all of the same order. They could be identified with the *bhadrakā* type of pillars of the ancient classical texts, being basically square but having various recesses. The base (*kumbha*) is tapering and is divided from the shaft (*stambha*) by two tiers of roll-cornices. The shaft is also square with many recesses, its upper part being marked by four horizontal bands, some of them recessed. The *bharanī* is a square slab, the outer edge of which is ornamented profusely and the corners are decorated with a leaf motif. The capitals of the pillars stretch out in four directions, and those of pilasters in three directions, having simple volute brackets (Fig. 75).

The pillars and pilasters of the two supporting frameworks are wrought and ornamented with more care and attention. Being placed in the middle of two storey-levels, they are taller than the pillars in the pavilions. The length of the shaft is broken by a projecting box-like piece having recesses at the corners like the shaft itself. The capitals are heavy and dominant and balance the elongated slenderness of the shafts. The capital gives this impression, because its three constituent parts, the abacus, the bracket and the corbel with pendant are themselves heavy masses. The ornamental forms (for example, the doubly-bent brackets, the pendants and the corbels) and the ornamental designs (for example, the fluting in the brackets, the diamond design on the abacus) succeed in reducing the sense of heaviness. However, the absence of any

figurative designs, like the joyful bracket-figures in stepwells of non-Muslim patronage, underline their straightness and serenity.

Sculptural and decorative ornamentation: Though built under Muslim patronage, the Dādā Harīr stepwell does not strictly follow the aniconic rules of Islam. It is true, however, that the overall impression one gets while visiting this monument is of its lacking any figurative decoration. Hidden in an abundance of floral motifs and horizontal bands, one can discover small figures of animals (Figs. 79, 82). These are depicted as nicely and naturally as they are in similar examples of 'Hinduistic' patronage like the stepwell of Adālaḥ. The inscription in the Dādā Harīr stepwell testifies that the architectural supervisors and workers (*sūtradhāra*) were 'Hindu' with names such as Vīra, Deva, Śrī Girāṇa or Sāyā. In fact, this is very interesting because the patroness was a Muslim lady and the monument that she had built displays various and obvious elements of the previous and prevailing 'Hindu' tradition.

Sculptural and decorative ornamentation at niches: The niches (Fig. 80) are placed in the centre of each bay in between the pilasters in each pavilion. The pediment is usually not placed directly on top of the lintel, but only over various horizontal rows of ornamental bands with geometrical designs (Fig. 82). Otherwise the pilasters, the lintel and the crowning (in *īlīkā*-fashion, meaning caterpillar-like—Fig. 81) are a continuation of the earlier traditions of the Māru Gurjara and successive Vāghelā styles prevailing in Gujarat. The pure Islamic elements of decoration are the rosette-medallions, one on each side over the pediment (Fig. 81) like the flower-buttons to be seen on both sides over arched entrances to mosques. The niches are filled with very elaborately carved floral scrolls (Fig. 80), the 'tree of life' or a huge lotus-rosette in a vase, which seems to be an alteration of the classical motif of *pūrṇaḥaṭa*, the vase of plenty. In one niche, two peacocks flank the stem of a slender tree, giving rise to an abundance of leaves, branches and flowers. Two snakes entwine the stem. The tail feathers of the peacocks are hardly distinguishable from the leaves and branches of the tree.

Sculptural and decorative ornamentation: at the octagonal shaft: The inside wall of the parapet wall around the octagonal shaft is profusely carved with geometrical and floral designs (Figs. 73, 74). It comprises, like any other parapet wall of this type in a stepwell of a non-Islamic construction, *rājasenakā*, *vedikā*, *āsanapaṭṭa* and *kakṣāsana*. The corners of the octagon are hidden behind a large *kūṭākāra* motif (Fig. 74) which also appears in the earlier stepwell architecture below the *vedikā*, as in the Aṅkol Mātā stepwell. This *kūṭākāra* motif here is more elaborate, being clearly designed as a small temple or pavilion covered by a conical dome. The central bay is filled with a vase-and-chain motif and floral designs. *Rājasenakā* and *vedikā* (Fig. 74) are built of vertical stone slabs (*stambhikā* of classical architecture) with geometrical chequer designs and floral patterns. Recognizable also is a *pūrṇaḥaṭa* motif in abstract form, topping alternate *stambhikā*. The *āsanapaṭṭa* is embellished with a continuous floral scroll interspersed by a row of medallions which have in their centre a lotus-bud. The *kakṣāsana* is like that of the Aṅkol Mātā stepwell, built up of three horizontal tiers, the middle one consisting of vertical stone slabs being framed by bands with different floral patterns. Floral medallions alternate with pilaster-patterns in the vertical stone slabs (Fig. 76).

Other decorations: In order to reach from one *kūṭa* to the next in the various levels, ledges (Fig. 75) are built along the walls of the stepped corridor in each storey. These rest on corbels which are decorated with pendants. The edges of the ledges themselves are decorated with tassel-like patterns (Fig. 75). Running along the sidewalls of the stepped corridor are horizontal bands with various designs which reduce the plainness of the wall (Figs. 75, 82). These have intricate floral scroll patterns and half-lotus motifs (Fig. 82) or rows of squares which are filled with either naturalistic or stylised flowers (also Figs. 75, 76). The horizontal bands inside the back wall of the well are most interesting, as their animals appear in between the floral scroll and the flowers (Fig. 79), often in naturalistic and humorous postures, like an elephant plucking out plants with its trunk, two peacocks with entwined necks, geese picking flowers

with their beaks, and horses. The brackets for pulling water with buckets are profusely embellished with numerous pendants, and geometrical and floral designs.

Dating the inscription: The Dādā Harīr stepwell bears two inscriptions (see Appendix 2), one in Sanskrit and the other in Arabic. Both are inserted in the central niche opposite to each other in the first storey of the first *kūṭa*, the Sanskrit inscription being placed in the southern side, the Arabic on the northern front. Each inscription is cut into a vertical slab of white marble, measuring 60 cm by 37.5 cm. The Sanskrit inscription is in *nāgarī* characters and written in prose and verse consisting of 24 lines. It is dated v.s. 1556, in the current *śāka* year 1421, Monday the 13th *tithi* of the bright fortnight of Pauṣ (line 12 ff), which would correspond to either the 16th or 25th of December 1499. This date does not correspond to the one given in the Arabic inscription, i.e., 8th Jumada of the 26th Year 896, which would correspond to 19th March 1490. This controversy about the date cannot be settled easily.¹⁸

The year of completion of this stepwell is generally accepted to be A.D. 1499, according to the Sanskrit inscription.

B.1.b(2). Stepwell of Limbhoi (Figs. 83 to 90 and Drawing 1)

Location and name: Limbhoi is a small village located to the north of Iḍar Hill. It is reached by a detour of about 4 km from the Iḍar-Khedbrahmā Road. It lies in Iḍar *tālukā* of the Sābarkānthā district. The stepwell of Limbhoi has no specific name and is situated on the western outskirts of the village.

Historical setting: Limbhoi was, throughout the centuries, under the supremacy of Iḍar state, which had re-established itself as an independent state in the 17th century after the rule of the Parihāras (during the 11th and 12th cc.), the Rāṭhoḍs (in the 13th c.) and Muslim overlords (from the 14th to the 16th cc.).¹⁹

General architectural structure: The stepwell is laid out in a westerly direction, the well being in the east and entrance in the west (Drawing 1). The stepped corridor measures 42 m in length from its beginning at the entrance pavilion to the back wall of the well. It is 3.10 m broad throughout.

The construction is of *nandā* type, i.e., with a straight stepped corridor and one entrance (Fig. 84). There are four pavilion-towers (*kūṭa*) having three intermediate supporting frameworks in between (Fig. 84). The fourth *kūṭa* is adjacent to the well. Its storeys are approached by two spiral staircases, one on each side. The pavilion of this fourth *kūṭa* above ground level is still intact (Fig. 84). It is resting on four pillars and is domed with a conical roof. One can enter it from the sides, whereas the front sides overlooking the stepped corridor are barred with the usual stone-bench and *kaśāsana*, the sloping backrest. It seems that the other *kūṭa* had such a pavilion above ground level, which are broken now, as indicated by the stones lying around (Fig. 84). The stepped corridor actually begins half a metre underground. From its level, it broadens in three steps (Fig. 84) as shown in the section of Drawing 1. The entrance pavilion is cross-shaped having three entrances (Fig. 83), whilst the fourth one on the western side leads down into the stepped corridor. This plan could be described as *caturmukha* or *caumukha*, meaning 'having four entrances', as it appears in ground plans of stepwells (for example, the Chaumukhi stepwell in Chobari—Fig. 237) and temples (for example, the temple in Ranakpur).

Structural elements: the stepped corridor: The stepped corridor is, in relation to its length, rather narrow. The reason for this might lie in the loose geological material of the earth, as there was also a need to insert intermediate supporting frameworks (Fig. 85) at rather short distances in between the pavilion-towers. The stepped corridor is broadened from its breadth of 3.10 m in the staircase to more than 6 m at the ground level by three steps, as seen in the drawing.

Structural elements: the pavilion tower: The pavilions in the towers (Fig. 85) are small and simple cells in between four pilasters. These are not directly resting on the walls but are strengthened by intermediate vertical beams between the pilasters and the walls. The bays in between the pilasters in each pavilion are embellished with niches.

The intermediate structures are quadrangular frames of two pilasters, the cross-beam on top and the lintel below (Fig. 85). The brackets to support the upper beams are profusely sculptured on the doubly-bent struts and pendants.

Structural elements: the entrance pavilion: The entrance pavilion has a regular cross-shaped ground plan and four entrances, the western one leading down to the stepped corridor. The ground plan of the entrance pavilion is a square of 6.25 m having in the middle of each side projections of 3 m in length and 2.45 m in breadth which are the four entrances. The roofing rests on 20 pillars (Fig. 83), one at each angle. The octagonal pillar shafts (Fig. 87) have a diameter of 30 cm. A parapet wall of 80 cm in height borders the inner space of the pavilion (Fig. 87), leaving the entrance gaps open. These parapet walls are decked with stone slabs to make a bench. A backrest is attached to it with doubly-curved moulding. At the corners and angles where the pillars stand, these backrests merge with the shafts of the pillars, forming one carved block of stone. The method of construction of the parapet wall, pillars and the horizontal stone benches is seen clearly in Fig. 87. The roofing over the main square of the pavilion is a huge dome attached to four smaller ones over each entrance-projection (Fig. 83).

Structural elements: pillars and pilasters: The pillars of the entrance pavilion (Fig. 83) and those of *kūṭa* four (Fig. 84) are rather plain and of *miśraka* type (i.e., mixed order), which are typical for Western India. They are square at the base, and at the shaft they become octagonal, sixteen-sided and round. The *bharaṇi* are two round plates, projecting slightly and merging into each other. The capitals with four brackets in each direction are plain. The shafts are decorated with bell-and-chain motifs in two varieties, one with smaller links, the other with larger links and a moderate scroll motif.

Sculptural and decorative ornamentation: There are two small sculptures on the top lintels of the first *kūṭa* in the first pavilion (Fig. 85). They embellish the corners where the lintels join the sidewalls. On the northern side, it is Viṣṇu with Lakṣmī on Garuḍa (Fig. 90) and on the southern side Śiva with Pārvatī on Nandi (Fig. 89). In the squarish, extremely broad faces of the gods, one can discern a typical feature of the Gujarati school of sculpture. The benign smile on the faces of Viṣṇu and Śiva, the powerful grip of Lakṣmī and Pārvatī over their husbands' necks and the lively flexure of their bodies testify to the master workmanship in these pieces and to the continuation of the classical tradition of the earlier centuries. Of astoundingly similar features, smile and posture is the sculpture of a four-armed goddess from Jhīṇjhuvada in north-western Gujarat.²⁰ The two niches inside the first pavilion are extraordinarily sculptured at the surrounding frameworks (*parikarma*—Fig. 86). The pediment is of the elongated *īlika* type, having a deity in its centre; on the northern side it is a goddess, on the southern side it is Gaṇeśa. The niches themselves are empty. These are the most decorated parts, other parts of pillars, walls, lintels, eaves and backrest are relatively plain.

Dating: An inscription (Fig. 88) at the beginning of the stepped corridor on the southern side carved directly into the stone blocks, mentions: 'saṁvat 1686 varṣe viśāka sad 3 dane gajadhār govanda', meaning 'in the year saṁvat 1686, (month) vaiśākha, on the day sud 3, architect Govanda (Govinda)'. The date corresponds to A.D. 1629, the architect was obviously a Vaiṣṇava with the name of Govinda, a name of Kṛṣṇa. A special feature of this inscription is that the vowels 'u' and 'i' are exchanged by the vowel 'a', as in 'sad' for 'sud' or Govanda for Govinda. Because of the type of letters and wording, the inscription is authentic and we can believe that it gives the actual date of the construction of this stepwell.

B.I.b(3). Stepwell of Sathāmba (Figs. 91 to 98)

Location and name: The village of Sathāmba is situated in Bayad *tālukā* of Sābarkānthā district, about 20 km away from Bayad. The stepwell is located in the middle of the village on the main cross-road.

Historical setting: The village was the seat of the former Sathāmba, a small princely state, with 18 villages.²¹

General architectural structure: The stepwell is laid out in the north-south direction, the well being in the south and the entrance in the north (Fig. 91).

A new entrance pavilion, parapet wall and cisterns were attached to the stepwell recently, so that from outside one cannot easily discover that this ancient and beautiful structure is underneath. The stepwell is altogether 30.70 m in length including the steps leading up to the entrance pavilion and the well. The diameter of the well is 4.35 m, the breadth of the stepped corridor is 2.40 m inside and 3.63 m outside, including a parapet wall of 0.40 m on each side. The stepwell is of the *nandā* type having one entrance and three *kūṭa*. There is one intermediate supporting framework between *kūṭa* two and three (Fig. 91).

Structural elements: The stepped corridor has an inside width of 2.40 m throughout.

The pavilion-towers are 2.55 m in length and 2.40 m in breadth. The bays in between the pilasters are 1.92 m broad, the opening distance from the pavilion into the stepped corridor is 1.55 m. The pavilions are simple cells in between four pilasters (Fig. 91). In the first *kūṭa* in the first storey, there is one niche on each side. Two smaller niches were also attached in the wall of the stepped corridor in between the entrance pavilion and the first *kūṭa*.

The well is the most beautiful and most profusely ornamented part of this stepwell (Figs. 92, 93, 95 to 97). It rises in alternate layers of huge stone blocks and narrow stone plates (Fig. 91). The stone blocks are separated from one another by vertical stone slabs. The horizontal band of narrow stone plates is made of stretchers, whereas the vertical stone slabs are headers. The stone blocks bear sculptures in low relief. The area around the sculptures is carved out so that the stone block itself seems recessed. The well ends in a horizontal projection carved with a row of pendants and a parapet wall over it having the same pendant-like ornamentation (Figs. 92, 93).

The pilasters (Fig. 97) are absolutely plain and of the *rucaka* type, being only square at base, shaft, *bharaṇi* and capital. The only decoration on the plain surface is a double cornice between base and shaft and a simple volute bracket. A ribbed projection (*chaḍya*) having a pair of *haṃsa* (geese) in its middle, protects the pavilions and is found on the top platforms.

Sculptural and decorative ornamentation: The niche at the entrance staircase is framed with an elaborately carved *parikarma*, which has a pendant-like ornamentation at the bottom-lintel, carved pilasters and a ribbed projection (*chaḍya*) with a pair of *haṃsa* in the middle. The pediment is a triangular, pyramidal *jāli*-work. The niche is filled with the images of Gaṇeśa and Bhairava (Fig. 94). Gaṇeśa is standing in a doubly-bent posture (*dvi-bhaṅga*), he has four arms holding a conch, a pot, an axe and an unidentified object, as the arm is broken. His crown is in the same style as that of the many-armed goddess from Dābhoi belonging to the 12th century. His rat is sitting at his left. Bhairava is also standing in the *dvi-bhaṅga* pose, he has four arms holding a shield, an ewer and the hourglass-shaped drum (*ḍamaru*). He seems to be clad only in a very thin loin cloth with tassels at his right leg, his dog sitting at his left side.

The niches inside *kūṭa* one are empty, but their pediment (*udgama*) is a very finely executed elongated *jāli*-work having the quality of fine filigree. The ribbed *chaḍya* with a pair of *haṃsa* in the middle is also intact.

The sculptures in the well are all of high quality and display themes, workmanship and iconographical details commonly met with in the 12th century in northern Gujarat. The themes depicted are of the goddess Lakṣmī (Fig. 92) sitting on a lotus-seat (*padmāsana*) having two lotuses in her hands and being attended by two female fly-whisk (*cauri*) bearers, in the central portion. The other themes are scenes of fighting horses (Fig. 92), fighting elephants (Figs. 95, 97), warriors and musicians (Figs. 95, 96), all four in successive panels one above the other. There are also female figures in natural postures like combing hair, putting on anklets and looking into the mirror. The parapet wall on top of the well-wall bears human figures, figures of a sea-monster (*makara*) swallowing a man, a fish and a tortoise.

Dating: As there is no inscription in this stepwell, the dating is to be done with regard to style and workmanship of the sculptures. As already seen, these are in accordance with the sculptures of the 12th century in northern Gujarat in places like Dābhoi and Jhīnṇuvada and the *raṅgamaṇḍapa* of the Vimala Vasahi on Mt Abu. Therefore, the whole structure could be dated in the 12th century, as it is clear that the sculptures and the monument belong together.

B.1.b(4). Nāgā Bāvā Stepwell, Dhrāṅgadhṛā (Figs. 99 to 104)

Location and name: Dhrāṅgadhṛā is a town in Surendranagar district. The Nāgā Bāvā stepwell lies just outside the town in a north-easterly direction, on the way to the village of Pāṭadī. The name is derived from the adjacent small shrine of a Nāgā Bāvā, a 'naked ascetic' who for generations has attended to the shrine. This shrine, however, might not have been established before the last century, and nothing in the stepwell itself points to its association with the Nāgā Bāvā shrine.

Historical setting: Dhrāṅgadhṛā was the capital of Dhrāṅgadhṛā state ruled by the Jhala-Rajputs²² who came from Sind and established their sovereignty over this area in the 11th century. Therefore the whole area around Dhrāṅgadhṛā received the name of Jhalavad, 'the land of the Jhala'. The main branch of Jhalas ruled from Dhrāṅgadhṛā, which was the traditional seat of their house.

General architectural structure: The Nāgā Bāvā stepwell is laid out in a north-south direction, the entrance being in the northern and the well in the southern end. On the western side of the entrance, there is a small shrine of Śiva, inside which there is an inscription in old Gujarati language in *devanāgarī* script. The inscription mentions the date of completion as the year corresponding to A.D. 1503.

The stepwell has three pavilion-towers and two intermediate supporting frameworks (Fig. 99). There is only one entrance. The stepped corridor starts from a raised platform on which the small Śiva shrine is situated. The stepwell is built entirely of large stone blocks which are fitted together with mortar. This feature of using mortar is a rather late phenomenon; the earlier stepwells from the 7th up to the 14th century only use blocks fitted together tightly without the use of mortar. In this respect, it is interesting to note that the Dhrāṅgadhṛā stone-quarries were very famous throughout the ages.²³

Structural elements: The stepped corridor is a rather narrow passage which descends to an extremely short distance between the pavilion-towers and the intermediate supporting frameworks (Fig. 99).

The pavilion-towers are plain and simple cells in between the space of four pilasters. The first storey in the first *kūṭa* is embellished with niches (Figs. 100, 101), one each in each bay between the pilasters. Before reaching the pavilion in the first *kūṭa*, there are two door-keepers (*dvāra-pāla*), carved in the sidewalls of the stepped corridor, similar to those figures guarding the entrance to a shrine or *garbhagrha*.

The pilasters are of the simple *bhadraka* order (Fig. 103), being square with recesses at base and shaft. The shaft is plain with occasional scroll patterns (Fig. 102); the base and

brackets have moderate non-figurative designs. Double pilasters with a broad common base support the intermediate frameworks (Fig. 103).

Sculptural and decorative ornamentation: The *dvāra-pāla* figures (Fig. 104) are both similar in size, posture, costume and ornamentation. Both figures stand on a projecting pedestal. They are wearing a coat-like upper garment reaching down to the ankles and having many folds. The lower edges bear an ornamented band. Above the waist, an ornamented broad girdle holds the garment tight, both its ends with tassels hanging down. In the girdle, a dagger and knife are kept. One arm is raised at an angle holding a long sword with an ornamented cover, whereas the other arm hangs down straight holding a rosary (*akṣa-mālā*). The turban is fitting tightly on the head with a conical cap projecting on top. The earrings are large and prominent, hanging down on to the shoulders. Two vertical marks decorate the forehead, which are usually yellow in colour and worn by Vaiṣṇavas. Ornamented bands on the upper arms and a double necklace decorate the figures.

The niche in the eastern side of the first *kūṭa* holds a figure of Gaṇeśa (Fig. 100), who is to be found in every stepwell. He is sitting on a cushion-like pedestal with one leg resting on the seat and the other kept vertically down. His belly is capacious, but broken in this image. He wears the sacred thread (*yajñopavīta*) and has four arms as usually described for images of Viṣṇeśvara, the deity presiding over obstacles. He holds an axe in his right upper hand. The opposite niche bears an image of Mahīśāsura-mardīnī (Fig. 102) which is found frequently in stepwells. The image has a touch of folk art in its concept revealed by the buffalo-demon, the faces of the lion and the exposed body of the goddess. She is standing with one leg bent on the buffalo-demon, out of whose neck the demon in human form is emerging. A spear pierces the demon's body. The goddess holds a sword and shield in her other hands (although her arms are broken, the weapons are recognisable). The lion with a seal-like face bites into the buffalo-demon's back. The goddess wearing a conical cap and long ear-ornaments exposes her right leg, whereas, the other part is covered by a thin cloth. Her breasts are uncovered. A small niche near the western *dvāra-pāla* figure looks like a miniature archway in a mosque, having two minarets with horizontal tiers, an arch, circular plaques at its corners and the chain-and-bell motif hanging down from the centre of the arch. The existence of this motif which is of Islamic origin is very intriguing.

The decoration around the niches comprises geometrical and scroll motifs, and also the chain-and-bell motif on the pilasters. The basement and brackets of the pilasters in the pavilions are decorated with scroll motifs or geometrical patterns. On one bracket an abstract form of a parrot is recognisable. The horizontal cross-beams are decorated with horizontal bands of scroll-designs, the middle of which is marked with a small figure of Gaṇeśa (usually found in a stepwell on the lintel of the first *kūṭa*) and half medallions with flower petals.

Dating and inscription: The inscription is found on the lintel over the door inside the small shrine at the entrance to the stepwell. It is on a marble plaque and in old Gujarati characters. In translation, it reads as follows:

"Homage to Gaṇeśa, homage to Śārdā (a name of Sarasvatī), saṁvat 1560, in present times 1525, in the month of śrāvaṇ, in the white half, Wednesday, the work of this stepwell is completed. The sponsor (kāraṇyār, i.e., 'the one who got it done') in Dhrāṅgadhrā Mahārāṇā Śrī Jasvant Sinhaji's time, Śāḍabā has got it done. Her master is Amār Singji, the son (*parodhār*) of Mahārāṇā Śrī Rāysingji who is (ranked) 1800, the master of the throne of Salavad (i.e., Jhālavad) is in Halvad. The construction of the stepwell has cost Rs. 4,000. The craftsman who constructed the stepwell is Gujarat Sūtar Morlīdhar. His *sutsalāt* (*salāt* is a stoneworker) Paśūrām has constructed this stepwell. (On the) land of this stepwell, 40 *vīghā*, having been taken by purchase right, Śāḍabā got this stepwell done. The land around and the stepwell is for the sake of *dharma* and for her own benefit. The rest of the land is for cow-grazing."

Throughout this inscription, the term *vāv* is used for this stepwell. The date of the construction of this stepwell is determined by the inscription mentioning that this stepwell was completed 'in the current year 1525'. There is a slight divergence between the two dates given in the inscription; as *saṃvat* year of 1560 would correspond to A.D. 1503. It is probable, however, that the term 'current year 1525' means the year of the Christian era, or perhaps that of a local calendar.

B.1.b(5). Ghaṇṭi Stepwell, Iḍar (Figs. 105 to 108 and Drawing 2)

Location and name: This stepwell is located on the eastern outskirts of Iḍar town, in the Sābarkānṭhā district, in the suburban village of Ghambhīrpura. The stepwell lies just outside one entrance gate to Iḍar town called *ghaṇṭi nā darvājo*, 'the entrance gate of the valley', because it is situated between two hillocks behind which Iḍar town is located. The name of the stepwell, locally known as *ghaṇṭi nī vāi*, is probably derived from the analogy of the name of the entrance gate near which it is situated. A small pond (*kuṇḍa*) is nearby, a few hundred metres to the east of the stepwell.

Historical setting: Iḍar, formerly called Ilvadūrḡa, was the capital of the former Iḍar state, existing as an independent state from the 17th century onwards. A.K. Forbes in his *Rās Mālā, or Hindoo Annals of the Province of Goosarat in Western India*, mentions a stepwell in the town of Iḍar (Eedur as spelled by him), with an inscription relating to Rao Jagannath (Row Jugunnath) dated A.D. 1646. The lithograph attached therein shows a formidable stepwell filled with water up to the last storey and having a rather high parapet wall with geometrical ornamentations. These indicate that the stepwell seen by Forbes in the early 19th century was most probably not the Ghaṇṭi stepwell, but another one, the existence of which cannot be traced any more.²⁴

General architectural structure: The Ghaṇṭi stepwell is laid out in the east-west direction, the well being in the east and the entrance being in the west. The main structural features are similar to those in the Nāgā Bāvā stepwell of Dhrāṅadhrā. The full length of the Ghaṇṭi stepwell is 56 m from the entrance to the back wall of the well. As compared to this length, the breadth of the stepped corridor is proportionately narrow, being hardly more than 3 m. The stepped corridor (Fig. 108) is interspersed with five pavilion-towers and four intermediate supporting frameworks (Fig. 107) at regular intervals. The entrance platform which is raised about one metre above ground level is reached by several steps on three sides, the fourth side leading down the stepped corridor. This entrance platform is 4 m long and as broad as the stepped corridor. The Ghaṇṭi stepwell could belong to the classical category of the *nandā* type having one entrance, although having more than three *kūṭa*.

Structural elements: The stepped corridor has a length of nearly 48 m. Its breadth remains the same throughout its length, but narrows at the pavilion-towers (Fig. 105). At the stairs the breadth is 3.10 m, whereas it decreases to 2.60 m within the pavilions of the *kūṭa* (Fig. 108). The long distance between one pavilion-tower and the next is bridged by the use of intermediate frameworks at intervals of about 3 m between two pavilions. The sidewalls are strongly built of huge stone blocks without the use of mortar.

The pavilion-towers are simple, almost square cells (Fig. 108) between four pilasters. The top lintels are covered by a projection (*chaḍya*) which has three minute leaf motifs carved on it. The fifth *kūṭa* which is adjacent to the well has a staircase leading down to the floor below on the northern side.

The parapet wall on the surface along the stepped corridor (Fig. 105) follows exactly the course of the stepped corridor with its contractions and extensions. It is 35 cm broad and of the same height, and is rounded at the top.

The well has two pairs of brackets on the northern and southern sides and a stone slab covering the eastern, i.e., back end, being the stone remnants of the earlier water-pulling device.

The pilasters in the pavilions and supporting frameworks (Fig. 108) are of the simple, square (*rucaka*) type. They have a plain shaft, and a tapering base in four steps. The breadth of the base is 50 cm and then narrows down to 34 cm at the shaft. The capitals of the pilasters in the pavilions are plain, whereas those of the supporting frameworks are broad, and the large brackets have ornamentation at the bottom and the top with inverted bell-like pendants (Fig. 107).

The pavilion of the fifth *kūṭa* is barred against the shaft of the well by a stone seat with a sloping backrest (*kakṣāsana*) which is broken at the uppermost floor (above ground level), but intact at the storey beneath (in the first storey underground).

The niche in the first *kūṭa* (Fig. 106) is embellished with a similar kind of *parikarma* as found in the Nāgā Bāvā stepwell in Dhrāṅgadhṛā. Here also the bell-and-chain motif appears on the pilasters, but otherwise the stepwell has only moderate ornamentation on brackets in the supporting frameworks and bases of the pilasters.

B.1.b(6). A Stepwell, Hampur (Figs. 109 to 113)

Location and name: Hampur is a village in Dhrāṅgadhṛā *tālukā* of Surendranagar district, and is situated at a distance of 5 km (at the village of Rasitapur) from the Surendranagar-Dhrāṅgadhṛā road. The stepwell is located on the western outskirts of the village. There is no local name given to this stepwell. Its clean water is still used by the villagers for daily use.

Historical setting: Being situated close to the town of Dhrāṅgadhṛā, Hampur village was probably under the rule of the Jhala Rājputs of Dhrāṅgadhṛā.

General architectural structure: The stepwell (Fig. 109) is laid out in the north-south direction, the entrance being in the south and the well in the north. The entrance to the stepped corridor is marked by a pavilion (Fig. 110) standing on a raised platform which is reached by some steps on three sides, the fourth leading down the corridor. The corridor is divided by five pavilion-towers and four intermediate supporting frameworks (Fig. 109). The part of the corridor around the fourth pavilion-tower and third supporting framework is broken, displaying a large pit strewn with stone blocks, now filled with water. The stepwell supplies fresh water and is filled up to the first storey after the rainy season.

Structural elements: The stepped corridor is narrow and elongated, and, therefore, has to be supported by the pavilion-towers and the intermediate frameworks. On the eastern side at the fifth *kūṭa*, there is a spiral staircase leading down to the lower storeys.

The pavilion-towers occupy the space in between four pilasters. The first *kūṭa* has a niche on both sides (Fig. 113) each inserted in the bays embellished with *pūrṇaḥoṭa* motifs.

The entrance pavilion has a half-spherical dome (Fig. 112) which is resting on twelve pillars, eight of which mark the corners of an internal octagonal plan, the four additional ones making the outside square platform (Fig. 112). The half-spherical dome has collapsed as its span was too large and the supporting concentric rings of masonry too weak to bear its weight. However, one can recognise that the corbelling system (Fig. 110) was employed to transform the square plan into the circular base of the dome, passing through octagonal, sixteen and 32-sided forms, as it moves upwards. The same method is also employed in the entrance pavilion of the Dādā Harīr stepwell in Ahmedabad.

The water-pulling, channelling and storage systems are still intact. The receptacle for water at the western end of the well is connected with a channel passing over the well itself leading the water into a large oblong trough at the western side. The gargoyle of this water

channel (Fig. 111) is intricately carved in the form of a mythical elephant, through which the water falls into a lower-lying trough.

The pilasters in the *maṇḍapa* (Fig. 113) are of plain *bhadraka* type (square with recesses). The pillars in the entrance pavilion (Fig. 112) are marked by their manifold horizontal divisions and numerous recesses, being of the *mīśraka* (mixed) type. The base is elongated and displays a tapering form where it merges into the slender shaft. A circular *bharaṇi* leads to the capital which is of a volute formation. The niches in the first *kūṭa* embellish the monument with *pūrṇaghaṭa* motif (Fig. 113) which is carved with a small elongated vase, a full-blown lotus flower and a connecting chain. The plainness of the entrance pavilion is broken by a narrow band of a geometrical flower design arranged in small squares on top of the horizontal connecting lintels of the pillars. This pattern appears prominently also in the Dādā Harīr stepwell.

Dating: As there is no inscription and sculptural ornamentation, the date of construction of this stepwell can only be surmised from its architectural style, method of construction and decorative patterns. Although there are resemblances to the Dādā Harīr stepwell in the structure of the entrance pavilion and the formation of the *pūrṇaghaṭa* motif, the Hampur stepwell should be dated slightly later, i.e., to the 16th to 17th centuries, because the architectural setting of the whole monument and the pillars and pilasters is more in line with the Nāgā Bāvā stepwell of Dhrāṅgadhṛā which is dated to the early 16th century, around 1525.

B.1.b(7). Mātrī Stepwell, Kaṅkavatī (Fig. 114)

Location and name: Kaṅkavatī is a small village in Dhrāṅgadhṛā *tālūkā* of Surendranagar district. It is reached by a detour of about 11 km (at the village of Soldi) on the Dhrāṅgadhṛā-Halvad road. The stepwell is actually situated between the villages of Vaghagaḍh and Kaṅkavatī, completely submerged in an artificial lake (*tālāo*). It has all the features of a stepwell proper, except that the stepped corridor is not built underground, but on the bed of the lake and is at times fully submerged in water. The name Mātrī stepwell is locally given, because it is supposed to have an image of Mātrī, the mother-goddess, inside the lower storeys.

The structural parts that one can actually approach in the Mātrī stepwell are two parallel paths of about half a metre breadth which are the top of the stepwell walls. These paths are connected at the end by a circular path surrounding the well (Fig. 114). The Mātrī stepwell is set into an elongated rectangular platform made of stone slabs, the open spaces of the stepped corridor and the circle of the well being, as it were, cut out of it.

The paths are interlinked by the platforms and crossbars of the pavilion-towers and intermediate supporting structures.

The Mātrī stepwell is laid out in an east-west direction, the well being in the west and the entrance at the eastern end. Some steps lead down in a staircase to the water level and upper surface on the stepwell. There are five pavilion-towers and four intermediate supporting frameworks. Across the circular well, two stone beams are lying, the one, near the middle, being supported by brackets and the shorter one resting on corbels. The larger one has a small *kīrtimukha* face carved on the vertical plane. This stepwell is most of the time submerged in the water of the lake.

The reason for constructing a stepwell on a lake might be a provision for times of drought. When the water in the lake has dried up completely, it is still possible that the well, the bottom of which reaches below the level of the lake, would supply enough water.

B.1.b(8). A Stepwell, Sevasi (Figs. 115 to 120)

Sevasi is a village, about 6 km to the west of Baroda. The stepwell is situated in the village itself.

The stepwell is laid out in an east-west direction, the well being in the east and the entrance in the west. The stepwell (Fig. 115) has five pavilion-towers and five intermediate supporting frameworks. The *kūṭa* do not rise above ground level, their top platform ends half a metre below ground. A round parapet wall of about half a metre height surrounds the stepped corridor and the well. The *maṇḍapa* have four pilasters and four pillars. Only *kūṭa* five rises above the ground level and is crowned with an oblong *maṇḍapa* with a dome in the middle (Fig. 115). The pillars (Fig. 118) are of the *bhadraka* (square with recesses) and *miśraka* type. The *miśraka* pillars are ornamented at various levels with a horizontal band with naturalistic and abstract leaf-patterns and a chain-and-bell motif on each plane of the octagonal section.

The lintels of the *maṇḍapa* are either decorated with rows of elongated leaf-patterns (Fig. 116) or flowers in between which garlands are carved. The lintel over the middle pathway in *kūṭa* one bears an inscription at the back (facing east—Fig. 120). The inscription is crudely carved into the stone slab in two lines. It is divided into two halves by a flower-pattern set in a square. The entablature of the pillars which are boarding the middle pathway of *kūṭa* two in the second storey is beautifully carved with sculptures which resemble those found on hero-stones (Figs. 119). These sculptures show on each side on the frieze a horse being led by its rider. The horses are decorated with bands, tassels and ornaments and they have one raised leg resting on a wave, which is a common motif on hero-stones. Some other panels show lively depictions of geese with scrolls hanging from their beaks (Fig. 117) and elephants.

B.I.c. With pavilion towers as only supporting structure (Figs. 121 to 180)

B.I.c (I). Vikia Stepwell, near Ghumli (Figs. 121 to 131 & Plan II)

Location and name: The Vikia stepwell is situated at the foot of the Barda Hills in Bhanvad *tālukā* of Jāmnagar district. The site is situated near the ancient town of Ghumli, which was the capital of the ruling house of the Jethva Rājputs from the 10th to the 14th centuries. The Vikia stepwell itself is located in the open landscape near the village of Bhavnesvara on the Porbandar-Bhanvad road, about 28 km from Porbandar. The stepwell received its name after one of the Jethva rulers, Vikiaji, the diminutive form of Vikramāditya, who was a contemporary of Siddharāja Solanki (Jayasinhha Siddharāja) and Ra Khengar Cuḍāsamā of Junāgadh.

Historical setting: The Jethvas, the rulers of the Barda Hills, are supposed to be the oldest race in Saurashtra and their ancestors are believed to be Scythians of the north. They settled in Saurashtra probably between A.D. 900 and 1000, establishing their capital in Ghumli (the ancient name is Bhūtaṁbhīlikā or Bhūmilikā).²⁵ Before them Ghumli was the seat of the Saindhava rulers. The Jethvas mainly dominated the coastal area in the Barda Hills, the most inland possession of importance was Dhāṅk, which was also called Rahvas Paṭan or Preh Paṭan.²⁶ It is said that Rājā Khetoji had built the Vikia stepwell in honour of his father bearing that name. Khetoji was the 119th ruler of the Jethva dynasty in the genealogical list of the Jethva House given by the bards. No actual date is given to Khetoji, the next date is ascribed to Sandhji, the 147th ruler in the same genealogy, who ascended the throne in 1120.²⁷ From this, one could surmise that Khetoji was active in the 11th century. The Jethvas ruled from their capital Ghumli till 1313, when it was destroyed by invasions from Sind. Successive invasions from Sind, Kutch and by the Sultans of Gujarat made the Jethvas shift their capital to Ranpura (from 1313 to 1360), to Chaya (in the 16th century) and finally to Porbandar (after about 1700), which was their seat until recently.²⁸

General architectural structure: Wandering through the plains towards the foot of the Barda Hills, the Vikia stepwell appears, at first sight, as heavy, massive and monumental (Fig. 121), because of the short and rather thick pillars of the pavilions which are above

ground level. In places, the roofing over the pavilions has collapsed, exposing the massivity of the pillars without balance.

The Vikia stepwell belongs to the first type of the classical category called *nandā*, having one entrance and three *kūṭa* (see Plan II). Its stepped corridor descends in a straight line, being interrupted by three pavilion towers and without any intermediate framework. It measures 65.7 m from the entrance-pavilion to the back wall of the well. The stepped corridor is only 4.50 m broad, but 60 metres in length. This proportion of narrow breadth to the length is only possible where the earth is not sandy, and the walls will not crumble over the long distance from one pavilion-tower to the next.

The Vikia stepwell is laid out in the east-west direction, the entrance being in the east, and the well in the west.

The entrance-pavilions and the three additional pavilions over the pavilion-towers are evolving above ground level (Fig. 121). There is no parapet wall either around the well or bordering the stepped corridor, as would usually be the case in well-preserved monuments.

Structural elements: the stepped corridor: The stepped corridor is very narrow and tapers as it goes down (Fig. 126). The distance between the entrance pavilions and the other three pavilion-towers is 16.2 m, 14.0 m and 13 m, respectively. The narrow breadth of the corridor, the bridging over by the pavilion-towers and the walling with huge stone blocks seem to be strong enough to bear stress of the surrounding earth.

Structural elements: the pavilion-towers: There are only three pavilion-towers, although the last one reaches five storeys underground. It is usually the case that one storey is added in a successive order to the pavilion-towers as the stepped corridor proceeds. In the Vikia stepwell, the first pavilion-tower already has two storeys, the middle pavilion-tower four storeys and the last one five storeys (see Plan II), at the bottom of which the water level is reached. The third *kūṭa* is adjacent to the well with a short connecting neck. The breadth of the *kūṭa* is only 2.78 m in each case. All the pavilions are alike (Fig. 126), having four pillars in the middle portion and four pilasters at the sides. The part of the pavilions above ground (Fig. 128) can be approached by a staircase on each side. Stone benches and sloping backrests overlook the open corridor. In each pavilion-tower, one can descend to the lower storeys by stairs arranged opposite to each other from one storey to the next (Fig. 127).

Structural elements: the entrance pavilion: The entrance pavilion (Fig. 123) covers a square of 5.70 m. It is surrounded on all sides by a low stone bench with sloping backrest (Fig. 125) leaving open two entrances of about 1 m at the eastern and western sides (Fig. 123). The pillars are resting on the other stone benches, but continuing underneath in the same method as that employed in the Limbhoi stepwell (Fig. 87). The *phamsana* roofing is supported by 12 pillars, the pediments of which are profusely sculptured (Figs. 122, 123).

Structural elements: pillars and pilasters: The pillars in the entrance pavilion (Fig. 123) and the three pavilions above ground level (Fig. 121) are continuing below the stone benches on which they are seemingly resting, in order to give them the same total height as they have in the interior pavilions in the stepped corridor. The pillars are of the *miśraka* (mixed) type and quite stout (Fig. 125) as compared to other monuments of the same style and area. At the lower base, they cover a square of 67 cm tapering to 52 cm. The shaft is made up of three different sections, the lowest being square with sides of 47 cm changing into hexagonal shape with sides of 30 cm and into circular form at the topmost section with a diameter of 45 cm. The capital is resting on two circular *bharanī*, the upper one slightly more projecting than the lower one. The brackets of the free-standing pillars are projecting in four directions and are all beautifully carved with human and animal figures.

Sculptural and decorative ornamentation: The round section of the pillar shaft is crowned by an ornamental band in low-relief depicting *grāsamukha* heads lined up in a row (Fig. 129). From their mouths a short chain is hanging.

The brackets (Figs. 125, 130, 131) have neatly conceived figures, not only carved in minute detail, but also displaying, in most cases, ironical and humorous positions and expressions, for example, figures (Figs. 130, 131) appear with their heads on top of the capital, whereas their bellies descend to form the round part of the bracket and their bottom forms the base of the bracket. As no space is left for the continuation of the legs, these are spread out on both sides nearly vertically, with their arms embracing the legs. These acrobatic forms of human figures appear in many varieties. Many animals in lively realistic positions are shown, for example, a deer licking a flower with a raised head; a pig swallowing some small animal; an elephant's head with a curled trunk and tusks; a kneeling rhinoceros; two geese in amorous play; a bear with an ornamental belly belt; a monkey stretching out his bare bottom to the onlookers; a grinning face (Fig. 125); a man's head with large flapping ears; an elephant eating a flower. Similar varieties are found in the brackets of the Navalakha temple at Ghumli, which is of about the same date as the Vikia stepwell (Fig. 10).

Dating: In major respects, the style of the Vikia stepwell is very close to that of the Navalakha temple in Ghumli. This temple displays the typical features of the architecture and sculptures of the period of Jayasimha Siddharāja (1094-1144). Other major examples of the same style are the Navalakha temples in Sejakpur and Anandpur. Considering these contemporary temples, it would be most suitable to place the date of construction of the Vikia stepwell into this same architectural period, i.e., the 11th or the beginning of 12th century.

B.1.c(2). Jetha Stepwell, near Ghumli

The Jetha stepwell is situated in the vicinity of the Vikia stepwell in the Bardā Hills. It is in a very dilapidated condition. Burgess²⁹ calls this stepwell a 'large and noble public well' and thinks that this 'great well was doubtless a royal work...', although it is now believed that it was not built by a royal patron, but a noble citizen, Shreshti Jetaji of Ghumli. An inscription was found near the entrance mentioning a date of *saṃvat* 1383, corresponding to A.D. 1326-27, which might not be the date of its construction.

The architectural setting, such as the proportion of length and breadth of the stepped corridor, the structure of the pavilion-towers, the formation of the *maṇḍapa* and the ornamentation on the brackets, is similar to that of the Vikia stepwell. One point of differentiation is the formation of the pillars, which brings the Jetha stepwell slightly nearer to the Navalakha temple in Ghumli of the end of the 12th century.

B.1.c(3). Mādhā Stepwell, Vāḍhvāṇ (Figs. 132 to 138)

Location and name: Vāḍhvāṇ is an ancient village situated about 8 km to the east of Surendranagar district. The Mādhā stepwell is located inside the ancient part of the town at the western side. It is said that it derives its name from one of the ministers of the Vāghelā overlord, Karṇa Vāghelā (also called Karan Ghelo), named Mādhā who had built this stepwell. Mādhā was a Nāgar Brahmin and it is believed that his statue and that of his wife are still found in the stepwell. According to local belief, a ghost is haunting the Mādhā stepwell who demands a human victim every third year by drowning in the well-water. A popular folk-song is connected with this stepwell (see Appendix 1).

Historical setting: A short inscription under the sculpture indicates that construction belongs to the late Vāghelā period, under the ruler Karṇadeva Vāghelā. He was a weak ruler, and therefore received the name of Karan Ghelo, Karan the Insane. During his reign Ala-ud-din Khilji of Delhi (1296-1317) occupied Gujarat and made his brother Alaf Khan the governor of this territory.³⁰

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General architectural structure: The Mādhā stepwell is altogether 55 m long. It has six pavilion-towers (*kūṭa*) and six flights of stairs (Fig. 134), which is an unusual number. It is laid in the east-west direction, the well being in the east and the entrance in the west. A specific feature of this well is the tapering roof over each *kūṭa* (Fig. 132) which is made up of narrow horizontal tiers in ogee moulding. This feature brings this stepwell and the Rātbā stepwell of Rāmpura (Figs. 149 to 152), a village near Vādhvān, in close relationship. The stone screen, separating the first flight of stairs from the first *kūṭa* (Fig. 134) is in its divisional ornamentation similar to the screen in the Vimala Vasahi temple on Mt Abu.

Structural elements: The stepped corridor is 49.80 m long. Its breadth decreases at each pavilion (Fig. 132). It is at the flights of stairs 6 m broad and at the pavilions 3.60 m. The thick walling (Fig. 135) at the pavilions seems to be necessary as a supporting structure, as the distance between one pavilion and the next is 4.80 m, which is rather large (Fig. 135). A section through the stepped corridor reveals a tapering plan (Fig. 135). The stepped corridor is approached by a separate narrow staircase which is attached to it in the front.

The pavilions in the *kūṭa* are small cells (Fig. 135) in between four pilasters. They are 2.70 m long and, as mentioned, 3.60 m broad. As there are no staircases within the *kūṭa*, the various upper storeys are only reached by the narrow ledges at the sidewalls, which make up each storey (Fig. 135). The roofing over each *kūṭa* has a slight convex shape and is built of nine horizontal tiers with ogee moulding (Fig. 132). The roofing is crowned by a finial which has the shape of an *amālaka* and *pūrṇa-kalāśa* made of one stone block (Fig. 132). These two normally form the topmost part of a *śikhara* of a North Indian temple. Some *maṇḍapa* are embellished with niches.

The well is 5.30 m in diameter. Six struts (Fig. 138) are introduced in the last storey. The four at the back wall are covered with a stone lintel over which the arrangement for hauling up water by buckets was fixed.

Sculptural and decorative ornamentation: The screen (Fig. 134) is divided into two parts forming the walls to the sides of the first *kūṭa*. Each side of the screen has 16 squares, i.e., four each in four rows. The sections are parted with horizontal and vertical lines of diamond motifs (*ratna*). The points where these lines meet are enlarged to a prominent flower-pattern. A similar screen is found in a mosque built one and a half centuries later in the middle of the 15th century, in Rani's mosque at Sārangpur in Ahmedabad. Each side of the screen is framed by a vertical pilaster-like beam and horizontal lintel with a row of *haṁsa* (geese). The square sections are covered with either geometrical or floral patterns; in some cases figural ornamentation is set into these patterns, which are, however, in a dilapidated condition. The *nandyavarta* motif reminds one of the parallelism between this screen and that in the Jaina temple on Mt Abu. The screens are topped by a semi-circular parapet. The doorframe (*dvāraśākhā*—Fig. 134) around the entrance to the first *kūṭa* is embellished with miniature sculpture of seated gods, arranged in compartments in the vertical beams. The horizontal lintel bears scenes of daily life.

The niches are located inside the pavilions, in the bays in between the pilasters, and before the pavilions at the landing of the staircase. The pediments of the niches are framed with a *torṇa*-motif of the *īlika* (caterpillar) type. In the niches sculptures of Bhairava, Dasavatāra, Saptamātṛkā, Navagraha and of a couple are recognisable. The rest of the sculptures are in such a dilapidated condition that identification is difficult. The sculpture of a couple preserved in the stepwell seems to represent the patrons, a minister of Karnaḍadeva Vāghelā and his wife.³¹

The brackets (Fig. 137) are decorated with leaf-and-scroll designs, whereas the cornice on top bears in each case a miniature sculpture depicting either a godly figure in sitting or standing posture, or an erotic *maithuna* scene.

The struts in the well are double-bent (Fig. 137). The curved sections are decorated, like the brackets, with a scroll design. In between the *stambhikā* (pilaster-like sections), lively figures of mythical animals with riders, erotic (*maithuna*) scenes or geometrical patterns are introduced.

Dating: The short inscription underneath a sculpture mentions the date corresponding to A.D. 1294. The major part of the ornamental details, like those on the brackets, struts, lintels, screen and sculptures themselves are actually in the style of the late Vāghelā period in the 13th century.

B.1.c(4). Brahmā Stepwell, Khedbrahmā (Figs. 139 to 140 & Drawing 3)

Location and name: Khedbrahmā is a village in Khedbrahmā *tālukā* of the Sābarkānthā district. The temple of Brahmā belongs to the 12th century. The stepwell is situated opposite this temple and therefore locally received the name of Brahmā's stepwell.

General architectural structure: The stepwell is laid out in an east-west direction, the well being in the west and the entrance in the east. The length of the stepped corridor from the beginning of the stairs to the end of the corridor is 30 m, the diameter of the well is 8.10 m, giving a total length of the monument as 38.10 m. The construction of the stepped corridor tapers as it goes downwards (Fig. 140) and also lengthwise (Fig. 140), which is revealed in the ground plan. It has altogether four pavilion-towers, the fourth one being attached to the well. The tapering structure is revealed by the varying breadths at different levels: at the entrance-staircase the breadth is 8.50 m (inclusive of the parapet wall); without the parapet wall, i.e., the inside breadth of the stepped corridor is 6.60 m; the breadth at the second *kūṭa* is 5.40 m and at the third *kūṭa* it decreases to 3.90 m. The tapering section provides a comfortable passage (Figs. 140) in each storey to the various *maṇḍapa*. The sidewalls of the stepped corridor are structured in horizontal layers, one is broad and recessed, the other narrow and slightly projecting (Fig. 140).

The most interesting feature in this stepwell, however, is the ornamentation inside the well (Fig. 139). Miniature shrines, all lined up in a row, surround the entire circle of the well. Each shrine is made up of a niche, an intermediate section with a diamond (*ratna*) motif in the middle and an elongated *śikhara* crowned with *amālaka* and *pūrṇa-kalāśa*. The central shrine is prominently marked with a taller *śikhara* which has *śukanāsa* set in front of it. All the niches which are divided by pilasters are empty now, although it is clear that earlier they had housed images. These could have given some clue to the meaning and designation of these miniature shrines inside the well. Among a certain group of the Jaina community, the Humad, it is believed that this stepwell is specially sacred to them. No actual proof for this, however, could be obtained from the monument itself.

The stepwell can be dated to the 14th century.

B.1.c(5). Mīnal Stepwell, Virpur (Figs. 141 to 143)

Location and name: Virpur is a town in Goṇḍal *tālukā* of the Rājkot district. It is situated on the ancient military and trade route from northern Gujarat to the pilgrim centre of Somanāth Pāṭan. The stepwell is located in the middle of the town. Locally, the building of the Mīnal stepwell is ascribed to Mīnaldevī, Siddharāja Jayasīṃha's mother.

Historical setting: The house of Virpur formed a small independent kingdom, being an offshoot of the Jādejā Rājputs.³²

General architectural structure: The monument (Figs. 141) is in a dilapidated condition. It had originally three pavilion-towers. The entrance-staircase is broader than the stepped corridor itself, being 4.20 m and decreasing to 2.15 m in the stepped corridor.

Among the numerous sculptures (Figs. 142, 143) in the niches, only a few are recognisable; for example, a sitting figure of Bhairava with a *damru* and a deer in his raised hands, and of Śeṣaśāyīn Viṣṇu, whom village girls regarded to be an image of Mīnaldevī, the patron-goddess of this stepwell, having a child on her lap (the lotus of Viṣṇu) and a woman in pregnancy nearby (Bhūdevī at Viṣṇu's feet).

Although locally this stepwell is ascribed to Mīnaldevī, i.e., to the end of the 11th or the beginning of the 12th century, it seems to be more proper to date the Mīnal stepwell to the 13th century, as it shows close relationship with the Madha stepwell in Vāḍhvān, situated a short distance to the north, and to the Ra Khengar stepwell, situated at a short distance to the south. The main features of similarity are the *jālī*-pediments over the small niches (Fig. 142), the *līlīka*-pediments over the bigger niches, the pilasters of the *parikarma* surrounding the niches, the *chadya* topping them with the pair of *haṁsas* in the middle, the brackets, *stambhikā* and honeysuckle motifs on the lintels of the *maṇḍapa*.

B.1.c(6). Āsāpurī Stepwell, Ahmedabad (Figs. 144 to 148)

Location and name: Āsāpurī stepwell is located on the southern outskirts of Ahmedabad. It is built at the rear part of a temple compound. It derives its name from its connection with the temple of Āsāpurī, a mother-goddess.

Historical setting: In the 15th and 16th centuries, Ahmedabad was the headquarters of the Muslim kings of Gujarat, of whom Sultan Mahmud Begarah (1459-1513) was the most powerful ruler.³³

General architectural structure: The stepwell is laid out in a north-south direction, the well being in the south and the entrance in the north. It has four pavilion-towers, the last one of which is a broad surrounding passage around a square pond (Fig. 144). This shaft is four storeys high and in architectural structure and ornamentation very similar to that of the Rudabai stepwell of Adālj. The main point of difference is that it is square and not octagonal. At the bottom of the shaft, there is a square pool (Fig. 146), which becomes circular at a lower level. The water level in the pool is reached by a semi-circular stairway, the steps of which lead down on both sides.

Structural elements: The circumambulatory passage is unusually broad, the floor in the second storey being supported by two types of pillars, (a) the simple and square *rucaka* type and (b) the *miśraka* (mixed) type, being square, octagonal and round. These two types of pillars appear in two different sections of the surrounding passage, the *miśraka* type in the southern portion towards the well, and the *rucaka* type in the northern portion towards the entrance of the stepwell. In this monument, the stone construction (Fig. 148) for hauling up water is still intact. It consists of a beam resting on intricately carved brackets. This beam is laid across the opening of the well in its middle. The back wall of the well is covered by stone slabs which are resting on smaller brackets, forming a platform over the back section on which the wooden arrangement for hauling up water was installed previously.

Sculptural and decorative ornamentation: The parapet wall overlooking the square shaft of the surrounding passage (Fig. 146) is carved in ogee-form and decorated with lined-up leaf-patterns. A horizontal row of square sections with a diamond motif and tassel-like pendants form the lower parts of the parapet wall. The tassel-like pendants also proceed along the projections over the capitals of the pillars, and appear also as a horizontal band around the well-shaft (Fig. 148). The pillars (Fig. 144) are decorated with horizontal rows of stylised flowers and small diamond-motifs. The doorway (Fig. 145) from the staircase in the fourth *maṇḍapa* has an Islamic touch in the arched entrance resting on corbels with pendants and the flower-motif at the corners. A horizontal line of spiral scroll-and-flower patterns is hooding the arch. The doorway is crowned with an elaborate pediment with *jālī* work which

is reminiscent of the earlier ones on top of niches of the Māru-Gurjara and later Vāghelā tradition.

On a lintel above pillars in the surrounding passage, a panel depicting erotic scenes is carved. A pillar in the same passage in the second storey in the northern portion, in the first row of pillars, is carved with interesting reliefs, which greatly resemble those on hero-stones: one scene shows an intercourse between a donkey and a woman, the other relief is a square panel divided into four smaller squares each of which is filled with one motif, being a full sun, the sickle of the moon, and a cow in each lower section having a calf underneath.

Dating: Because of the ornamentation in the surrounding passage, around the arched doorway and on the pillars and also because of the architectural structure which is similar to a part of the Rudabai stepwell in Adāraj, the Āsāpurī stepwell could be dated to the 16th century.

B.1.c(7). Rātalā Stepwell, Rāmpura (Figs. 149 to 152)

Location and name: Rāmpura is a village in Vāḍhvāṇ *tālukā* of Surendranagar district. It is situated slightly outside the village. The local name of the stepwell is Rātalā, also Rātbā or Rājā.

Historical setting: The inscription mentions that Sultan Mahmud Begarah in Ahmedabad and the Parmārs were ruling the country.³⁴

General architectural structure: In its architectural details, the Rātalā stepwell resembles the Madha stepwell in Vāḍhvāṇ which is situated close to the village of Rāmpura. Also the Rātalā stepwell has six pavilion-towers (Fig. 149), and one additional entrance-pavilion which has collapsed now. The breadth of the stepped corridor decreases at the pavilions (Fig. 149). The pyramidal tapering roofing over the pavilions is ornamented in its recessed horizontal rows with geometrical patterns. The sculpture of Śeṣaśāyin Viṣṇu (Fig. 152) is very interesting because of its having a row of the Nine Planets (*navagraha*) on top. The pediment of the niche (Fig. 151) resembles those of the Dādā Harīr stepwell, because of its arch-like shape and chain-and-pot motif (cp. also Fig. 154).

B.1.c(8). Gaṅgā Stepwell, Vāḍhvāṇ (Figs. 153 to 154)

The Gaṅgā stepwell is situated in the town of Vāḍhvāṇ like the Mādhā stepwell. It is located to the eastern side of the town, outside the ancient city walls. A temple is adjacent to it.

It is smaller in size and more plain in its ornamentation, as compared to the Mādhā stepwell. The Gaṅgā stepwell (Fig. 153) has three pavilion-towers which are crowned by a tapering pyramidal roofing made of horizontal tiers. It is laid out in an east-west direction, the well being in the west and the entrance in the east. The pavilions (Fig. 153) are oblong structures in between four pilasters. The tapering roof does not cover the whole *maṇḍapa* (Fig. 153), as is the case in the Mādhā and Rātalā stepwells, but only the square part above the pillars. The *maṇḍapa* in the first *kūṭa* is embellished with a niche on each side. The niche (Fig. 154) is topped by an elaborate *īlika*-pediment, the central part of which is dominated by a water-pot (*loṭā*) hanging down from a chain. Each wave of the *īlika*-framing is resting on a miniature-pilaster. The niches are empty at present, but the depiction of a *triśūla* (trident), the symbol for the goddess Durgā (Fig. 154), is painted in white into the bay of one niche. The spaces in between the points are filled with two eyes, which is the same motif as found carved in one niche in the stepwell of Adāraj (Fig. 196). In one niche, the popular goddess Āmbā is worshipped with clay lamps as the words *jay ambe*, written in white paint, indicate.

The stepwell has an inscription mentioning the date of *saṁvat* 1225, corresponding to A.D. 1169. Because of the style of the pediments and the architectural structure, this date could be attributable to the construction of the Gaṅgā stepwell.

B.I.c(9). A Stepwell, Dhandhalpur (Figs. 155 to 158)

Dhandhalpur is a village in Sayla *tālukā* of Surendranagar district. The stepwell is located outside the village on its western outskirts.

During Siddharāja Jayasīrha's reign, Dhandhalpur was the frontier town of his Aṇāhīlvāḍa kingdom. It is said that Dhandhalpur was the birth-place of this sovereign.³⁵

The stepwell is laid out in an east-west direction, the well being in the east and the entrance in the west. At the entrance on its northern side, there is a small shrine of recent origin. A huge, 3 m high sculpture of Dhundlināth is erected to the southern side of the stepwell.

The stepwell (Fig. 155) has three pavilion-towers, the third one being three storeys deep. The pavilions (Fig. 156) are oblong structures with four pilasters and four pillars. The uppermost *maṇḍapa* of each *kūṭa* (Fig. 156) is covered with a domical or pyramidal roofing. The ceilings inside the pavilions reveal the division into three. Its three portions are ornamented as three full-blown lotuses (Fig. 158), each lotus flower corresponding to a dome on top. The entablature over the pillars is made of a *chaḍya* (projecting shed) which is surrounding the pavilions fully and a horizontal frieze with abstract flower-patterns in squares.

The only ornamentation of this stepwell is found in the ceilings (Fig. 158), the entablature (Fig. 155) and the brackets (Fig. 157). The pillars and pilasters (Fig. 156) themselves are of a plain, *miśraka* type. The figures on the brackets are of various kinds, mostly they are complete figures (Fig. 157) having a body bent in such a way that head and arms touch the ceiling. Also depictions of single heads, *kīrtimukha* and animal faces, which, however, might be later additions, appear on the brackets.

The entire structure along the stepped corridor and well is bordered on the ground level by a railing of cement of 50 cm height.

B.I.c(10). Jethābhāi Mūlji Stepwell, Isanpur (Figs. 159 to 166)

Isanpur is a small village a few kilometres to the south of Ahmedabad. The stepwell is situated outside the village in an orchard in private possession. The name is derived from the man who had constructed this stepwell about a hundred years ago, Jethābhāi Jivanlāl Nāgijbhāi (or Mūlji). A number of ancient ornamental parts were used in the construction of this stepwell.

The stepwell (Fig. 159) has four pavilion-towers of different formations, and an entrance-pavilion (Fig. 159) on a raised platform which is in its structure a corbel system of roofing (Fig. 163) similar to that of the Dādā Harīr stepwell. The first, second and third *kūṭa* are made of three and four rows of pillars and pilasters. The fourth *kūṭa* (Fig. 162) is adjacent to the well with which it is connected by a narrow neck. It consists of two rows of pillars. The lower storey of this *kūṭa* is approached by a spiral staircase on the southern side and a straight staircase on the northern side. To *kūṭa* two and three also spiral staircases are attached. The pillars in the first storey (Fig. 161) of each *kūṭa* are elongated and made of two sections; the upper one obviously is an older part, the two parts are divided by projecting corbels. The pillars in the lower storeys (Fig. 162) are of the usual *miśraka* type although completely plain, except for two projecting round mouldings at the base (*kumbhi*). The sculptures in the niches (Figs. 163 to 166) and at the pediments are in some cases older than the stepwell. They depict Bhairava (Fig. 166), Hanumān, Gaṇeśa (Fig. 164), a seated goddess Lakṣmī with four arms, a full-blown flower with a vase hanging down from a chain as also found in the Dādā Harīr stepwell, and Viṣṇu with attendants flanked by panels of erotic scenes (Fig. 165).

B.1.c(11). A Stepwell, Moḍherā (Fig. 167)

Moḍherā is a village in Chanasma *tālukā* of Mehsānā district. It is an ancient site (earlier known as Moḍheraka or Moherakahāra) and famous for the 11th-century Sun temple and the adjacent pond, the Sūrya kuṇḍa. The stepwell is situated a few hundred metres to the west of this pond.

Moḍherā, being situated not very far from Pāṭaṇ, was in the territory of the Caulukya rulers of Aṇāhīlvāḍa Pāṭaṇ. The Sun temple is one of the major examples of temple architecture of its time, built in A.D. 1027 under Bhimadeva I.

The stepwell (Fig. 167) is a small and simple structure. Previously it was considered to be one of the very early examples of stepwell architecture, being dated to the middle of the 10th century. This date, however, is to be reconsidered. One can observe that the small *maṇḍapa* on top of *kūṭa* two belongs to the 10th century, but the stepwell itself might be a later structure, probably belonging to the 11th century. It is possible that the *maṇḍapa* was a separate shrine which was fitted on to the stepwell. The *maṇḍapa* displays all characteristic features of a shrine of an early formation, being a simple, one-celled *grabhagṛha*. The leaf-pattern (*patra-śākhā*) on the doorframe (*dvāra-śākhā*) depicts lotus leaves, which might belong to the 10th century.

The stepwell has a narrow stepped corridor which is about 2.50 m broad. It descends with three pavilion-towers for three storeys downwards. It is built of sandstone blocks and stone slabs in alternating layers. The pavilions are small, nearly square cells in between four pilasters. The pilasters are of the square *rucaka* type without any ornamentation, except a moderate volute-pattern on the brackets. Three pairs of struts (*maḍala*) are built in the well over which the original arrangement for hauling up water was fixed. These *maḍala* are decorated with a diamond (*ratna*) pattern on top, and a *kīrtimukha* at the curved portion of the strut.

B.1.c(12). Sāsu and Vahu Stepwells, Kaleśvarī nī Nāl (Figs. 168 to 180 and Drawings 4 and 5)

Kaleśvarī nī Nāl (meaning 'the valley of goddess Kaleśvarī') is an ancient site near the village of Lavana, in Lunāvaḍā *tālukā* of the Panchmahals district. Both the stepwells are situated on the slope of the hill, to the north of two temples and a *kuṇḍa*. Ruins of three other temples are to be found on top of the hill.

The twin stepwells, Sāsu (stepwell of the mother-in-law) and Vahu (stepwell of the daughter-in-law), are built in one line (Fig. 158) in an east-west direction, about 20 m away from each other. The entrances are facing each other. They are built as a pair (maybe reflecting the idea of the *jamala vāpī*) on the same ground plan with four pavilion-towers and no intermediate frameworks.

Vahu stepwell (Drawing 4): It has its entrance in the west and the well in the east. It has four *kūṭa* with a simple *maṇḍapa* in between four pilasters. There are no pillars. The entrance platform is raised, with four steps leading up on three sides, the fourth one leading down the stepped corridor. The pavilion in the first *kūṭa* is broken, only the small empty niche with pyramidal *jālaka* work is remaining. All the *maṇḍapa* in the first storey are broken, only the level of the second storey is intact. In the second *kūṭa* in the second storey, the niches are decorated with sculptures; on the northern side it is Śeṣaśāyin Viṣṇu, on the southern side a panel of Saptamātṛkā. Both niches are crowned with an elongated, finely chiselled *jālaka* work pediment, in a triangular form. The middle of the lintel of the *maṇḍapa* is marked with *kīrtimukha* face.

Sāsu stepwell (Drawing 5): It has its entrance in the east and the well in the west. The architectural ground plan and set-up is similar to that of its twin monument. The stepped

corridor of the Sāsu stepwell is 4 m shorter being 31 m as compared to 35 m of the Vahu stepwell.

The pilasters are of the *rucaka* type with a square base, a roll-cornice dividing it from the shaft, the square *bharaṇi* in two tiers slightly projecting over the plain volute brackets.

In the northern wall of the entrance staircase, a niche is taken out, which bears two female figures (Fig. 177)—one of an emaciated woman giving birth to a child, the other one of the Goddess Śītalā riding on her donkey. Śītalā has four arms, one of which is carrying a broom, her identifying attribute. The niches in the first storey of the first *kūṭa* are extending over the whole bay in between the pilasters. On the northern side, there is a panel of *navagraha* (Figs. 178 to 180) and on the southern wall of the *Dasāvatāra* of Viṣṇu (Figs. 170 to 173). The ten incarnations of Viṣṇu are lined up in U-form starting from the western end: Matsya, Kūrma, Varāha, Narasiṃha, Vāmana, Paraśurāma, Rāma, Kṛṣṇa, Buddha and Kalki. In the second *kūṭa* in the same second storey, the niches have panels of a Śeṣaśāyin sculpture (Fig. 169) on the northern side and of Aṣṭamātṛkā with Virabhadra and Gaṇeśa (Figs. 174 to 176) on the southern side. The figures are again lined up in a U-form (from the western end): Cāmuṇḍa, Virabhadra (Fig. 175), Brāhmaṇī, Vaiṣṇavī, Kauberī, Vārāhī, Yamī, Indranī, Gaṇeśa and Māheśvarī (Raudrī).

Considering the similarity in style and iconography of the sculptures in the stepwells and those of the temples which are datable to the Mahā-Gurjara style of the end of the 10th century, it is probable also to ascribe the stepwells to the same period.²⁶

B.2. Type two: With straight stepped corridor and three entrances

B.2.(1). Ruda Stepwell, Adālaḥ (Figs. 187 to 201 and Plan III)

Location and name: Adālaḥ is a village, about 18 km to the north of Ahmedabad. The stepwell is located in the northern outskirts of the village. It derives its name from the lady-patron who had built this stepwell, Ruda, the wife of the Vāghelā chief Virasiṃha, as it is mentioned in the inscription.

Historical setting: The Vāghelās continued to rule in parts of Gujarat as petty chieftains during the reign of Sultan Maḥmud Begarah of Ahmedabad between the 15th and 16th centuries.

General architectural structure: The stepwell is 75.3 metres in total length. It is laid out in a north-south direction, the well being in the north and the entrance in the south. It has a straight descending corridor, but it is the only major monument which has three entrance stairs leading to the stepped corridor (Figs. 183, 185). These three entrances meet in the first storey underground in a huge square platform (Fig. 183) which has to the top an octagonal opening. The platform is resting on 16 pillars (Fig. 184), eight of which are standing at the corners of the octagon and two each in front of each main side, marking the four directions of the stairs. The two pillars to the north are based on the fourth step of the stepped corridor and, therefore, are slightly taller than the others (Figs. 181, 182). The four corners of the platform (Fig. 184) are marked by four built-in shrines, with doors, windows and balconies (Fig. 188). From this square platform the stepped corridor begins.

Structural elements: the stepped corridor: The stepped corridor descends with four pavilion-towers for five storeys (Fig. 181). Two supporting frameworks decrease the distance between *kūṭa* one and two and *kūṭa* two and three. *Kūṭa* three and four are structured in a peculiar manner. They are bordered by an octagonal shaft, the bottom of which is occupied by a square pond (Fig. 186). This octagonal shaft, being, as it were, a reverse tower of five gallery-storeys, is similar to that of the Dādā Harīr stepwell.

The stepped corridor is entirely surrounded by a one-metre-high parapet wall (Fig. 185) with a rounded topping. This parapet wall also becomes shorter where the breadth of the stepped corridor decreases at the pavilions.

Structural elements: the pavilion-towers: The pavilion-towers are of various formations, *kūṭa* one and two (Fig. 181) are supported by three rows of pillars, whereas *kūṭa* three has four rows, the last one forming one side of the octagonal shaft. *Kūṭa* four (Figs. 187, 188) is as it were inserted in between the octagonal shaft and the shaft of the well. It is made of the passage around the octagonal shaft in between two rows of pillars and the narrow neck leading towards the well-shaft. The upper platforms of each pavilion-tower, which is half a metre underground, are approached on each side by a staircase. Two spiral staircases, one on each side, descend through all the storeys of the octagonal shaft.

Structural elements: the octagonal shaft: The octagonal shaft (Fig. 186) is set into a square with 9-m long sides, the middle of which is the octagonal shaft with sides of 8.40 metres. Twelve pillars frame the square, eight of which stand on the corners of the octagon. The method of the octagonal shaft as set into a square plan is revealed by the lintels over the pillars. Four storeys in the octagonal shaft are entered by spiral staircases (Fig. 187) with an arched doorway, on the western and eastern sides. The railing (Fig. 189) around the octagonal shaft is built of *rājasenakā*, *vedikā*, *āsanapaṭṭa* and *kakṣāsana*, which are profusely carved in the style of the Dādā Harīr stepwell. *Stambhikā* appear in the *vedikā*, scroll motifs in the *āsanapaṭṭa* and a leaf-pattern in *kakṣāsana* (which is at many places broken).

Structural elements: the well: The well (Figs. 190, 198) has a diameter of 7 m. In each storey a small niche (Fig. 190) is introduced into the back wall, i.e., the northern end. The horizontal layers of the well-wall are stressed by string-course of various ornamental patterns (Fig. 198). In the upper parts at the rear end a squinch arch (Fig. 190) is built which is raised as a concrete walling up to the rim of the well, in order to form a solid platform for the device for hauling up water. Two single struts serving this purpose are built in the western and eastern sides, and are also intricately carved.

Structural elements: pillars and pilasters: The pillars (Fig. 184) are of the *bhadraka* type (square with recesses). The pillars and pilasters inside the pavilions (Fig. 191) are more plain in comparison to those of the intermediate frameworks (Fig. 181, 182, 192). The pillars in the pavilions have two different sizes (see Drawing 6), depending on their location: those in the first row (i.e., the southern side), while descending from the entrance, are slightly larger than those in the middle and back rows. The pillars in the first row have a base of 61.5 cm square, whereas the base of the others is 56 cm square. The formation of the pillars is as follows: a square base is tapering in three steps; a roll cornice dividing it from the square shaft which has two recesses and is decorated in the upper part with two horizontal bands. The square, recessed *bharanī* leads over to the capital which has four simple volute brackets. The pillars of the intermediate frameworks (Fig. 182) are taller as they are standing in between two storeys. They have a low base, their elongated shaft, however, is divided into two by horizontal bands which are recessed or are projecting. This ornamentation appears also at the topmost part of the shaft, which is the same as in the pillars of the pavilions. The capitals of these pillars are profusely carved. The corbels on which the brackets are resting are decorated with a hanging-leaf pattern and with reversed bell-like pendants. The course of the brackets is followed by the ornamental design carved on them, whereas the abacus is covered with diamond-designs.

Sculptural and decorative ornamentation: The entablature (Figs. 191, 192) is decorated with half-medallions with flowers or relief-panels and scroll-motifs which are evolving out of a *kīrtimukha*. The top edge is ending with a tassel-like ornamental band. The depictions on the panel (Fig. 191) are: a king sitting on a stool under a parasol, attended by two *cauri*-bearers; erotic scenes; churning buttermilk; combing hair; Bhairava with a *ḍamaru* and dog; dancing girls and musicians; a girl with a parrot.

The middle of the lintel of the entablature is always marked by a miniature figure set into a square, either Gaṇeśa, Hanumān, or a *kīrtimukha*.

The niches (Figs. 194 to 197, 201) are surrounded by a profusely carved *parikarma* (Fig. 194), which is in the style of the niches in the mosques of Ahmedabad during the 15th century. The pilasters (Fig. 181) are a reflection of the actual pillars. The lintel is broadened by a row of round stone-tassels. It is a shed-like projection in ogee-formation having three pairs of geese placed on it. The elongated pediment is crowned by an *ilika*-like pattern in the middle of which is hanging a long pot from a chain. The other niches (Fig. 194) are crowned by a pediment which is a pyramidal triangle with *jāli* ornamentation. The niches are either filled with full-blown lotus medallions (Figs. 195, 201) or with a depiction of the Great goddess (Figs. 194, 196, 197). The iconography of her image is very interesting. She is represented by her vehicle (*vāhana*) the lion, who is carrying a *triśūla* (trident—Fig. 196), her identifying attribute, on his shoulders. This *triśūla* could be interpreted as symbolising the goddess. In between the three points two eyes are carved, as in the manner of the recent paintings in white colour in the Gaṅgā stepwell of Vādhvān. The lion is surrounded by flower-medallions and scrolls. Another niche (Fig. 194) shows the lion only. Out of his shoulders elaborate scrolls are evolving. One other more symbolic representation of the goddess is found in one niche (Fig. 197). It shows three rows of three water-pots (*loṭā*) each, making nine in all. The abstract representation of the mother-goddess in nine *loṭā* is a popular motif all over Gujarat. The niches with floral ornamentation depict a patera (Fig. 195), or occasionally a rosette-like medallion (Fig. 201), from which an elongated pot is hanging, on one or three chains. Such a flower-medallion is surrounded with innumerable scrolls. In some niches, depictions of leafy branches, which are entwined in a regular symmetrical manner, are set. These niches with flower-medallions and branches are similar to those in the Dādā Haiṛ stepwell and the mosques of Ahmedabad.

The doorframes around the entrances of the spiral staircases to the octagonal shaft (Fig. 193) are surrounded by a *parikarma* which is an enlarged version of the frames around niches. Over one door in the second storey on the eastern side a panel with *navagraha* (the Nine Planets) is fixed. These are (from left to right): Sūrya, the sun; Soma or Candra, the moon; Maṅgala, Mars; Budha, Mercury (here in misinterpretation of the etymology depicted as Buddha); Bṛhaspati or guru, Jupiter; Śukra, Venus; Śani, Saturn; Rāhu and Ketu, the ascending and descending nodes of the moon.

The balconies (Fig. 188) in the octagonal platform at the entrance, which are facing the east and west, are framed by pilasters on each side, a *chaḍya* (shed-like projection) on top which is similar to that of the niches, and a low railing in ogee-form. This railing is decorated with a leaf-pattern, a horizontal scroll band and a broader band with lively depictions of animals and men, fighting elephants or lions, horses with riders and men attending to their horses.

The string-courses which are embellishing all parts of the structure are running along the sidewalls (Fig. 181) or divide the wall of the well (Fig. 198) into horizontal sections. They also appear on the walls of the octagonal shaft (Figs. 199, 200). They depict flower- or leaf-patterns or rows of animals. The flower-patterns are half-medallions bordered at the lower edge with tassel-like leaf-patterns, or they are rows of squares into each of which a flower is set. The animal-courses show lively depictions of fighting elephants, ornamented elephants pulling out trees, elephants in battle-dress and mythical animals, which are half-elephant and half-lion, with men in between them, or rows of geese plucking leaves with their beaks.

Inscription and dating: The inscription on a marble plate is set into a niche in the first storey of the second *kūṭa* on the eastern side. It is in Sanskrit and *devanāgarī* script and records in 27 lines that Ruda, or Rujha, queen of King Virasimha, had constructed this stepwell, while Mahmud Pādshāh was sultan (in Ahmedabad) in the year *saṁvat* 1555, corresponding to A.D. 1499³⁷ (see Appendix 3).

B.3. With L-shaped stepped corridor (Figs. 203 to 217 and Plan IV)

B.3(1). Jñān Stepwell, Visavāḍa (Figs. 203 to 210 and Plan IV)

Location and name: Visavāḍa is a village in Porbandar *tālukā* of Junāgaḍh district, situated near the sea-coast. Visavāḍa, being a place of ancient religious importance, is also called Mula-Dvārakā, i.e., the 'Original Dvārakā'. The stepwell is located on the outskirts of the village, to the west of a temple-complex devoted to Śiva.

Historical setting: Visavāḍa was under the Jethva rulers of Ghumli. There is a legend about the Jñān stepwell. Vinzāt Bhagat, who was a sincere devotee of Kṛṣṇa of Dvārakā, lived in Visavāḍa. Every day, after taking bath in the stepwell known as Jñān Vāv, he used to go to Dvārakā to worship there. As he grew older, he could not continue this practice. He was advised in a dream to build a temple-complex, which thus became known as Mula-Dvārakā.²⁸ In a niche in one of these temples, there is an inscription giving the date of v.s. 1262 (i.e., A.D. 1206) for its installation. One can surmise that by that time the temples had been constructed.

General architectural structure: The Jñān stepwell is a relatively small structure with only two underground storeys (Fig. 207). The entrance is in the south. The stepped corridor runs to the north with a turn to the east (Fig. 203), at the end of which there is the well. There is no pool for taking bath or washing, as is the case in larger stepwells. Because of this reason, the water level in the well can be approached by stairs leading into the water (Fig. 208).

The disposition of the architectural elements is as follows:

From the entrance pavilion (*mukhamanḍapa*) which is built on a raised platform (Fig. 204), eight steps lead down the stepped corridor till it reaches *kūṭa* one at an angle (Fig. 203). The stepped corridor continues at an angle of 90° to the east (Fig. 207) with two flights of stairs of three steps each, with an intermediate landing of 2.50 m. Over the last landing of *kūṭa* two, a *manḍapa* is built having two underground storeys. From the lower *manḍapa* an arched doorway leads to the water in the well (Fig. 208).

The architectural parts above ground level are the entrance-pavilion (Fig. 204), the three top-pavilions over the *kūṭa* (Fig. 203) and the parapet wall along the stepped corridor and the well. The entrance pavilion (Fig. 204) is domed by a tapering, pyramidal roof which is resting on four pillars. The other three *kūṭa* are also covered with the same type of *phāṃsakāra* roofing (Fig. 203). Parallel to the stepped corridor, the *manḍapa* are bordered with a 60-cm high stone-bench with a sloping backrest (*kakṣāsana*—Fig. 205) which is a common feature in the *mukhamanḍapa* of temples.

The stepped corridor is 1.80 m broad and lined by a 1-m broad parapet wall (Fig. 203) made of a horizontal layer of stone slabs. The stepped corridor descends for 7 m till it hits the back wall of the *manḍapa* in the first *kūṭa* where it turns to the east. The second part of the stepped corridor is parted by *kūṭa* two. *Kūṭa* three is adjacent to the well. Its lower *manḍapa* is entered by an arched doorway. This *manḍapa* (Fig. 208) covering a square with 1.60-m long sides is decorated with one niche each in the sidewalls, having sculptures inside. Behind this *manḍapa* the shaft of the well begins. A stone-beam is laid across the opening of the well-shaft (Fig. 205), which is resting on brackets. This cross-beam had formerly served as a support for the pulleys to haul up water by buckets. Adjacent to the well on the northern side the stone troughs (Fig. 206), where the water is led, are still extant.

The superstructure of the entrance and the other three pavilions is of the *phāṃsakāra* type, in which the pyramidal roofing is made of tapering tiers (Fig. 203). This type of superstructure is one of the four types of *śikhara* found in pre-Solanki temples in southern Saurashtra, of the Maitraka and Saindhava styles. The *phāṃsakāra* roofing seems to have

gone out of fashion during the succeeding centuries, but came into use again towards the end of the 12th and beginning of the 13th centuries. The earliest known example of this phase is the Nīlakaṇṭha Mahādeva temple, where its *raṅgamaṇḍapa* is domed with a *phāṃsakāra* superstructure (Fig. 6). Other examples are the temples in the Mula-Dvārakā complex in Vīsavāḍa (Fig. 7).³⁹

The dwarf pillars above the *āsanapaṭṭa* of the *vedikā* (balustrade) are of the *rucaka* type (square and plain order—Fig. 204).

In the Jñān stepwell, there are seven niches of which five are still housing idols (Figs. 209, 210). The location of the niches is seen in the ground plan. Of the five sculptures, four are idols of Viṣṇu, one is an icon of Sūrya (Fig. 209). The four Viṣṇu (Fig. 210) images are of the same type, all standing, having four arms, carrying a *śaṅkha* (conch) and *cakra* (wheel) in the two upper hands, the lower ones being in the *abhaya mudrā* (do-not-fear gesture) or unidentified, because the arms are broken. The idol of Sūrya is recognisable by the two lotus-flowers held in its upper arms.

Considering the similarities in the style of the *phāṃsakāra* superstructure and the type of pillars, we can surmise that the Jñān stepwell belongs to the same period as the temple-complex of Mula-Dvārakā in Vīsavāḍa, i.e., to the reign of Bhimadeva II in the early 13th century.

B.3(2). Navalakhi Stepwell, in Lakṣmī Vilās Palace, Baroda (Figs. 211 to 213)

The stepwell is situated in the north-eastern corner of the compound of the Lakṣmī Vilās Palace in Baroda, which is still the residence of the former Maharaja Gaekwad. The name, which is often also applied to temples (for example, Navalakhi temples in Ghumli and Sejakpur), could have been derived from the cost of its construction, being 9 lakhs of rupees.

Historical setting: The inscription in the stepwell mentions Zafar Khan as the governor of the province of Gujarat.⁴⁰ He assumed his regal title Muzaffar Shah in 1407-08, when he formally mounted the throne of Ahmedabad with the support of the nobles and chieftains of the country. He was appointed governor of Gujarat by Nasir-ud-din Muhammed Tughlak II of Delhi in 1391. Zafar Khan was believed to belong to the Tank group of Rajputs.⁴¹

General architectural structure: The stepwell is built on an L-shaped plan (Fig. 211) and proceeds with four pavilion-towers and four intermediate supporting frameworks for five storeys deep into the earth. The entrance staircase is set at right angles to the stepped corridor. The right angle is covered with a platform and thus made into an additional pavilion, being crowned by a small canopy in the middle (Fig. 211). This small canopy, the cupolas doming the *kūṭa* and a parapet-wall of 40 cm height, which is built of hewn stone-blocks into a conical shape, are the only structures above ground level.

The very interesting and rare features of this stepwell are the intermediate frameworks (Fig. 213) which are not only two-dimensional frames, but three-dimensional networks of vertical and horizontal stone beams. This network is formed by introducing cross-beams in between the frameworks and the pavilion-platforms (Fig. 213). These cross-beams run parallel to the course of the stepped corridor.

The stepped corridor starts with a staircase which is running from east to west and turns to the north at a right angle. The entrance staircase is 9 m long, and the main stepped corridor 35 m. It is in both cases 4.75 m broad. The steps of the entrance staircase descend in flights of nine, each ending in a broad landing. The platform of the pavilion at the right angle is supported by eight pilasters and eight pillars. The pavilion which is one storey underground is also entered by a narrow stairway at the western side.

The pavilion-towers have an evenly increasing number of storeys in the course of the stepped corridor. The pavilions in them are supported by four pilasters and four pillars. They are

of oblong ground plan with a length of 3 metres and covering the breadth of the stepped corridor. Each *kūṭa* is domed by a cupola, which is plastered.

As the framework is located in between two storeys (Fig. 213), its lower pillars have to be taller than those in the corresponding *maṇḍapa*, in order to reach finally the same level. The method by which this is achieved is different from that employed in the Dada Harir or Ruda stepwells, for example. There the shafts of the pillars are elongated in order to reach the upper level. In the Navalakhi stepwell the pillars are of the same height as in the pavilions, but additional shorter pillars, of dwarf-formation (Fig. 213), are set on top of the horizontal beams. The result is that the first storey in the intermediate framework has always two levels of horizontal beams, one at the height of the usual pillars and the other above it at the level of the storey in the pavilions. Cross-beams connect the framework with the two pavilion-towers on its sides, in order to make a cross-shaped, three-dimensional structure.

The pillars and pilasters are of two types, one more plain and simple (Fig. 213), similar to that in the stepwell of Sevasi, near Baroda (Figs. 116, 118), the other of *ghaṭapallava* type (Fig. 211) and very ornate, which resembles the pillars of the earlier Māru-Gurjara tradition to such an extent that it is possible to think that these latter pillars were taken from temples and used in this stepwell. The main reason for this is not only the formation of the pillars, but also their figural ornamentation with rows of geese and men fighting and other lively postures, which appear in exactly the same manner in the pillars of the Ra Khengar stepwell of Vantali (Fig. 233).

The entablature in the pavilions and frameworks (Fig. 213) bears designs of hanging leaves and scroll-patterns at their horizontal beams. The ornamentation of the ceiling inside the first *maṇḍapa* (Fig. 212) is made up of rows of half-medallions with flower-petals and garland-and-leaf patterns. The ceiling itself is embellished like a huge flower *patera*.

The plain pillars are of *mīśraka* type having a square base and a shaft which is square, octagonal, sixteen-sided and round. A row of *kīrtimukha* from the mouths of which chains are hanging close the shaft to the top. The brackets of these pillars are without any ornamentation. The *ghaṭapallava* pillars resemble those of the best Māru-Gurjara tradition of the 11th and 12th centuries, as found in the stepwell of Dāvad and the Sun temple of Modhera. They are made of a square *kumbhi* in *ghaṭapallava* formation, a short shaft, a round *bharāṇi* and a plain capital. The shaft has three horizontal rows of ornamentation, the lowest being in ogee-form with a leaf-pattern, the middle one a *narathara* (course with human figures) and on top a row with geese.

The inscription is in Persian language and in *thulth* characters. It is engraved on an arch-shaped marble tablet which is fixed in a niche on the western side of the first pavilion. The inscription mentions the year corresponding to A.D. 1405 as the year of completion of this stepwell.⁴²

B.3(3). A Stepwell, Chatral (Figs. 214 to 217)

Chatral is a village in Mehsana district, about 24 km to the north of Ahmedabad. The stepwell is situated on the outskirts of the village, near a natural lake, *tālāo*.

The stepwell is built on an L-shaped plan. It is partly in a ruined condition and partly repaired by the villagers with concrete and plastered all over.

The stepped corridor descends with five *kūṭa* five storeys deep into the earth (Fig. 216). *Kūṭa* one is a one-storeyed pavilion after the entrance staircase, while *kūṭa* two is at right angles to it. The pavilions in the *kūṭa* are oblong structures in between four pillars and four pilasters. Only ledges along the sidewall of the stepped corridor (Fig. 216) give access to the various storeys in the *kūṭa*; there are no additional spiral stairs attached. Although this stepwell is of a rather formidable size, it has no extra pool, in addition to the well. The steps of the last flight of steps lead directly to the water level in the well through a narrow doorway let into the strong wall

of the well at the fifth storey. The fourth storey gives access to the shaft of the well through an arched doorway.

The breadth of the stepped corridor narrows at the *kūṭa*, which is also reflected by a 30-cm high conical parapet wall bordering the stepped corridor and the well at ground level.

The stepwell has not much of carved ornamentation, except some sculptures in niches, which are of rather good workmanship, but partly in a broken condition. The sculptures are: in *kūṭa* two sculptures of goddess *Āmbā Mātā* and *Bhairava*; in *kūṭa* three (Figs. 214, 215) on the third storey, there is a niche filled with floral ornamentation. Below this there is a horizontal row depicting human activities which are in a dilapidated condition. However, one can still identify a woman giving birth to a child and four women attending on her, all arranged in a long row. In a niche next to this is a sculpture with *Śeṣaśāyin Viṣṇu*, in the opposite wall a niche with lotus-scroll ornamentation, beneath which are a small figure of *Gaṇeśa* (Fig. 214) and another of *Lakṣmī* (Fig. 215).

In the wall of the well, there are low relief depictions of two *Nagas* at the lowest (fifth) storey. Other miniature reliefs of snakes, tortoises, and fish appear on the stone blocks of the well.

B.4. With circumambulatory passage (Figs. 218 to 236 and Plan V)

B.4(1). Ra Khengar Stepwell, near Vanthalī (Figs. 218 to 233 and Plan V)

Location and name: The stepwell is situated close to the village of Koylipatak, about 5 km away from the town of Vanthalī in *Rānāvāv tālukā* of Junāgadh district. The stepwell received its name from the famous *Cuḍāsamā* ruler, Ra Khengār, of Junāgadh, who was a contemporary of *Siddharāja Jayasīṃha* of *Aṇāhīlvāḍa Pāṭaṇ*.

Historical setting: The *Cuḍāsamā* family was traditionally ruling the area around Junagadh. It was founded by *Rā Cuḍā* in about A.D. 875 who had his capital in Vanthalī (ancient: *Vāmanasthalī*). The *Cuḍāsamās* were feudatories of the *Caulukya* rulers of *Pāṭaṇ*, until in 1470 *Ra Maṇḍalik*, the last ruler of the *Cuḍāsamās*, surrendered Junagadh to Sultan Mahmud Begarah and was himself converted to Islam adopting the title of *Khan Jahan*.⁴³

General architectural structure: The Ra Khengar stepwell is built in a north-south direction, the entrance being in the north and the well in the south. Its major distinguishing architectural feature is the surrounding passage around the shaft of the well (Fig. 218). The stepped corridor proceeds in a straight line for three storeys underground. There are only two pavilion-towers. It could be, however, that it had originally three, because the first landing after the entrance staircase, which is one storey underground, is quite broad. The second *kūṭa* is two storeys deep, of which only the second storey is enclosed as a *maṇḍapa*. It is most probable that this *kūṭa* had originally both the storeys built as *maṇḍapa*, as in *kūṭa* three all the three storeys are intact.

The stepped corridor is 7.5 m broad. It proceeds in a straight line for 34 m. The first landing, which is about 4.5 m broad, is in no way distinguished, although from here two narrow pathways at both side walls of the stepped corridor lead to *kūṭa* one and two, while the middle part is open for the descending steps.

The first storey in *kūṭa* two (Fig. 219) is concealed in a newly constructed concrete arch, spanning the entire breadth of the corridor. Some parts of this storey, for example, the walls in between the pillars, are obviously newly constructed, as they do not actually fit into the original planning and structural set-up of this pavilion. These new additions inside the pavilion are made of bricks and plastered haphazardly, whereas the original structure is built with sandstone blocks.

Kūṭa one is reached by the second flight of 17 steps. The upper platform is supported by six pillars, and six pilasters in three rows. In the four bays in between the pilasters, niches are

introduced, which are empty now. To these Watson⁴⁴ might have alluded, when he states that in this stepwell there were two niches which originally contained inccriptions, but which were removed. *Kūṭa* two (Figs. 221, 222, 223) is adjacent to the well, and has three storeys. Above ground level, a new house is constructed over it. The *maṇḍapa* in this *kūṭa* are of the same architectural layout with six pillars and six pilasters. Only the pillars of the lowest, i.e., third storey, are richly carved.

The circumambulatory passage (Figs. 218, 220) which surrounds the octagonal well-shaft in the first storey, is 1.50 m broad. Wide screens (Fig. 218) on six sides (except the front facing the *maṇḍapa*) bear the upper structure and walling, parapet-wall and platform for the pulleys for hauling up water. Pillars on each side of the screens (Fig. 220) decrease the gap of the windows in between the screens. A 40-cm high railing, *kaśāsana*-like, in ogee shape borders the opening. At the level of the second storey, niches (Figs. 218, 221) are introduced into the wall which are empty now, they might have housed idols in earlier times. The screens bear huge struts which are supporting the device for hauling up water (Fig. 218).

The niches in *kūṭa* one are framed with narrow pilasters on each side, a *chaḍya* (shed-like projection) and the pyramidal tapering pediment. The minute *jālaka* work of the pediment resembles the texture of the *śikhara* of the temples of the period of Bhimadeva II (from the end of the 12th to the middle of 13th centuries), as seen in the Jaina shrine in Miani.

The railing in the windows of the surrounding passage is ornamented at the side which is facing the well with a petal design with protruding petals, the ends of which are curved into an ogee shape. Underneath this railing on a projecting stone slab, there is a row of geese carved in low relief (Fig. 220). The goose-ornamentation appears frequently either as a row or couple on lintels, beams, *chaḍya* projections and corbels (Fig. 221) in this stepwell.

The pillars in the front row facing the well in the third storey in *kūṭa* two (Fig. 223) are sculptured only at the lower portion of the base and the upper part of the pillar-shaft (Figs. 222, 231). The *kumbhi* is octagonal in which on each side there is a depiction of goddesses in a niched compartment (Figs. 230, 231). One seems to be a male figure. These seven goddesses could represent Saptamātṛkā, with Virbhadrā in their company. The base is separated from the pillar-shaft by a ledge-shaped cornice (*kevalā*) having a scroll design. The shaft is octagonal and tapering in three sections, the second being marked by vertical prong-like incisions. The upper part of the shaft is decorated with a band of half-medallions with leaf-patterns (Fig. 231), a band of squares and a band of *grāsamukha* having chains issuing from their mouths. A narrow cornice marks the beginning of the capital (*śīras*). The brackets are of two types—carved with human figures (Figs. 222, 225) or with lion-like faces; or of a simple volute design.

The entablature (*paṭa*—Fig. 225) has a lintel which is decorated with scroll-and-leaf patterns. The projecting *chaḍya* over it is marked with pairs of *hamsa*. The pillars of the second or middle row in this pavilion are of the same design.

The pillars in the row facing north (to the entrance staircase) are very ornate, with minute and intricate carving (Figs. 229, 230). The ornate pillars appear from the building activity of the period of the Caulukyas of Pāṭan onwards. The four sides of the base are covered with sections depicting sculptures (Figs. 230, 233). The lower section of the shaft is octagonal, showing on each side a niche with a small depiction of a goddess; above it are two horizontal straps of cornices, a band with uprising petals (*pallavī*), which also appear as a railing in the windows of the surrounding passage. A band of squares, slightly recessed, separates it from a strap depicting human activities. Above it, there is again—as in the plain pillars in the row facing south—a band of *grāsamukha*, issuing chains of pearls. The brackets again are either formed as human figures or animal heads or with simple stylised floral motifs.

The struts (Figs. 226, 228) are covered with finely chiselled work executed in horizontal rows. The finial at the bottom is a volute-corbel with a pendant, which is often placed beneath the ledges at regular intervals. The struts are crowned with a stone block carved with three

recesses. The empty spaces in the corners above the curves are filled with mythical animals with horse-bodies and lion-faces and bush-like tails (Figs. 227, 228) having a human rider. The horizontal bands above it are covered with a geometrical design and a row of half-lotuses (*ardha-padma*). From here a doubly-bent strut evolves which is less sculptured. A horse-rider is sculptured on it, as if riding on the smooth curve outwards. In the same line (Fig. 228) which has four vertical sections (of which two are *stambhika*, pilasters, and two *rathikā*, niches), a figure of a woman who is lifting with one hand her skirt and with the other a pot, draws one's attention. The strut is crowned (Fig. 226) by a stylised vase-and-foilage motif (a half-*stambhikā* motif) in a horizontal row, having recesses at distances. The other screens are of a similar formation, with slight variations in the relief and ornamental work.

In the first storey in between *kūṭa* one and two, there is a narrow balcony (Figs. 219, 224). The corbels are bent in a double flexure and are carved with floral scroll-motifs. Pendants are the finials at the bottom. The space in between two corbels (Fig. 224) is ornamented in a horizontal band with geometrical, scroll, half-lotus and again geometrical designs. Two miniature-corbels, also having pendants, mark the middle of the space underneath the balcony. Its parapet wall is covered with a geometrical pattern of two different kinds.

Dating: The dating of the Ra Khengar stepwell is to be done by literary evidence and its style of sculptural ornamentation. In the *Vastupāla Caritra*⁴⁵ it is mentioned that Minister Tejaḥpāla 'to remove the inconvenience of the travellers (had) constructed a stepwell, affluent in water, between his own town and Vāmanapūrī (Vanthali)'. Even today Junāgadh consists of two ancient settlements, one Jirṇadurgā (Uparkot) and Tejalapura, which was founded by Minister Tejaḥpāla. Considering their time of political and artistic activity in the early Vāghelā phase (in the two decades from about 1220 to 1240), it is reasonable to date the construction of the Ra Khengar stepwell around that of the Neminatha temple on Mt Abu (v.s. 1287, i.e., A.D. 1231), the Vastupāla Vihara on Mt Girnar (v.s. 1288, i.e., A.D. 1232) and the Sambhavanatha temple in Kumbharia. The style followed in the stepwell is in line with the general development of the temple-style in the early Vāghelā period with its 'tendency towards baroque intricacies',⁴⁶ *bhadraka* type (square with recess) pillars (Figs. 222, 231), *kaṭṭāsana* (railing) at the surrounding passage in ogee-shape decorated with uprising lotus-petals, and the tapering *jālā*-pediment at the niches. The date of construction of the Ra Khengar stepwell could fall in the years between 1230 and 1240.

B.4(2). Helical Stepwell, Pāvāgadh (Fig. 240)

The Helical stepwell is situated at the foot of a hill near the town of Pāvāgadh. It is laid out in a north-south direction, the entrance being in the south and the well in the north. It is altogether a small monument, measuring in all not more than 19 m. It is entirely made of bricks and stone plates on the steps. The architectural ground plan of this stepwell is simple. It consists mainly of the shaft of the well, and a short entrance staircase which leads into a spiral stairway (Fig. 240). This spiral stairway is attached to the wall of the well and descends downwards 'like the coils of a snake', as it is alluded to in the *Viśvakarma Vāstuśāstra*,⁴⁷ to the water level. The entrance staircase, which is 1.50 m broad and 4 m long, descends for 2 m and reaches a small platform from where the spiral stairway begins. The steps of this stairway are 1.20 m broad and are covered with stone slabs. Around the entrance staircase and the well, a one-metre high parapet wall borders the gap.

Although this stepwell does not have the circumambulatory passage around the well, it is included in this group, because the idea of circumambulation is expressed in the spiral stairway. This type of stepwell, as found in the Helical stepwell, reflects the very early stage of stepwell-architecture.

B.4(3). A Stepwell, Wānkāner Palace (Figs. 234, 235)

Wānkāner is a historical town in Rājkot district. The stepwell is located in the compound of 'Oasis', the summer palace and orchard belonging to the former royal house of Wānkāner. The stepwell was built by Maharana Raj Sahib Amar Singhji of Wānkāner, who ruled from 1899 till independence in 1947. He had constructed the stepwell more than four decades ago between 1930 and 1935.

The stepwell is completely built of sandstone which is found locally; the entire surface, however, is covered with plates of white marble (Figs. 234, 235). The ground plan of this well comprises the rectangular shaft of the well and a surrounding passage (Fig. 235). The entire well is built over with a palace-like edifice, the middle of which is occupied by the well and covered with glass, in order to let sufficient light through. The oblong well measures 8 m by 10 m, whereas the surrounding passage is 2.5 m broad. At the western side in the second storey underground, the passage broadens into a large hall. The surrounding passage descends for three storeys, where the water level of the well usually stands. Arched windows (Fig. 234) pierce the passage in order to enable a view of the well. At the side of the hall (i.e., the western side), a balcony is projecting, like a half canopy, into the well. The balcony is of a semi-octagonal ground plan and covered with a dome which is resting on four pillars and two pilasters. It is extending from the second to the third storey underground. Opposite this balcony, a niche is let into the wall, which contains a standing image of Śiva (Fig. 234). From Śiva's matted hair, a fountain of water is issuing forth, in imitation of the classical iconography of Śiva having the river Gaṅgā flowing down his head. Beneath the sculpture of Śiva, there are two fountain-basins, where the overflowing water forms water-curtains.

Pillars and pilasters support the upper surrounding passage (Fig. 235). The balustrade of the railing of this storey is made of slender posts bearing a perforated square-pattern. The pillars and pilasters and the balustrade are covered with floral and scroll carving.

The purpose of constructing this stepwell was solely for having a cool and comfortable place during the hot summer months.

B.4(4). Bhamaria Stepwell, Mehmudābād (Fig. 236)

The Bhamaria stepwell is situated in the village of Sojalī near Mehmudābād in Kheda district. The stepwell, although in a dilapidated state, is interesting for its architectural ground plan and structure. It is built into the rock. The main architectural elements are the octagonal shaft of the well and the chambers attached to it on the sides. These chambers are circular above ground level and are four in number, and in the lower, i.e., the first storey underground, are square and eight in number. The octagonal shaft is actually set into a square, the corners of which are occupied by winding staircases, leaving the octagonal space in the middle free. The chambers have open windows towards the well-shaft (Fig. 236). The sides in front of the spiral staircases have narrow arched windows, whereas the actual chambers at the four sides have large balconied windows. In an east-west direction the well is overspanned by two parallel arches (Fig. 236) which were originally supporting the device for hauling up water by buckets. The spiral staircases led to a lower storey, which was probably intended to be used as a cool retreat for the summer months. This storey is submerged in water. The square chambers in the first storey are approached by angular staircases.

The balconies of the windows are resting on six brackets which are neatly carved with scroll motifs. The lintel above them bears a horizontal band with abstract flowers set into squares. The low parapet wall is plain. The balcony windows are topped by a *chaḍya*, a horizontal course with geometrical patterns and the usual tassel-like ornamentation above.

This stepwell is dated to the time of Mahmud Begarah (1459-1511), which seems probable. Burgess⁴⁸ alludes to the use of this stepwell when he says that the 'well was probably in a pleasure garden'.

B.5. With cross-shaped ground plan (Figs. 237 to 239)

B.5(1). Caumukhi Stepwell, Chobari (Figs. 237 to 239)

Chobari is a village in Chotila *tālukā* of Surendranagar district. The Caumukhi stepwell is situated outside the village on its southern outskirts. There is another stepwell, the Ganesa stepwell, near the village, situated about 1 km to the east, which is in a completely devastated condition.

Chobari was under the rule of the Kāthīs, a semi-Rājput community ruling over the heartland of Saurashtra and lending their name to this area, Kathiawad.⁴⁹

From the architectural point of view, the Caumukhi stepwell is extremely important. Its ground plan is constructed like a regular cross (Fig. 237), with four entrances, as the name indicates (*caumukhi*=*caturmukhi*). It corresponds to the fourth class of the classical description of stepwells, named *viṣaya*. The well itself is in the middle of the structure, where the four arms of the cross meet. This point is broadened to a square. Because of this wide, open pool, this stepwell is often described as a pond (*kuṇḍa*).⁵⁰ At each side, a narrow corridor with steps is attached in order to lead down to the water level. At the southern side, a structure probably of a pavilion (Fig. 237) is still preserved. Four pillars in a row are connected by horizontal beams which might have carried the roof of the pavilion. The two middle pillars are connected with the corners of the southern stepped corridor to form a square; the framing beams on top can still be seen. The lintels are decorated with a row of geese. The walls of the pool and of the stepped corridors have niches, which have images of Saptamātṛkā (Fig. 239), Mahīśāsura-mardīnī (Fig. 238), Śeṣaśāyin, and other images of Viṣṇu and Śiva.

Religious and Secular Sculpture in Stepwells

PART A: RELIGIOUS SCULPTURE

Only very few literary sources refer to the iconography and location of sculpture in a water-monument. The only detailed descriptions are found, firstly, in the *Aparājitaṭṭṭhā* (Chapter 74, vv. 9-11) in the chapter 'vāpī-kūpa-taḍāga . . .' dealing with the architecture of wells, stepwells, ponds and artificial lakes and, secondly, the *Viśvakarma Vāstuśāstra* (Chapter 33, v. 9). While describing the ponds (*kuṇḍa*), it is mentioned in the *Aparājitaṭṭṭhā* verses that niches (*gavākṣa*) should be installed there. These niches should contain images of numerous deities such as Śrīdhara (the bearer of Śrī or wealth, i.e., Viṣṇu), Jalaśāyīn (Viṣṇu as reclining on the world snake Ananta in the ocean), Varāha (the third incarnation of Viṣṇu), the 11 Rudras (manifestations of Śiva), Durvāsa (a sage), Nārada (a sage), Gaṇanāyakas (meaning the chiefs of *gaṇas*, who are Śiva's attendants and a class of subordinate gods), Kṣetrapāla (the guardian of the location), Bhairava (a form of Śiva), Ūmāmaheśvara (Śiva with his consort Ūmā or Pārvatī), Kṛṣṇa (the eighth incarnation of Viṣṇu), Śaṅkara (a form of Śiva), Daṇḍapāṇī ('he who has a stick in his hand', i.e., Yama), Caṇḍikā (form of Goddess Durgā), Bhallasvamī (the lord of auspiciousness, i.e., Śiva), Bhāskara (the maker of light, i.e., the sun or Sūrya), Harihara (the combined form of Viṣṇu and Śiva), the 12 Āditya (a class of gods representing the sun in its 12 months of the year), the 12 Gaṇādhipa (lords of *gaṇa*), the three Agni (sacrificial fires), the Dikpāla, the Lokapāla (both presiding deities of directions), the eight Mātṛikā (mother-goddesses), Gaṅgā (river goddess Gaṅgā), and Navadurgā (Durgā in nine forms).

Whereas the *Aparājitaṭṭṭhā* elaborately mentions numerous deities to be installed in a water-monument by name, the *Viśvakarma Vāstuśāstra* confines itself to the general statement that sculptures of gods (*devatā-mūrti*) and ornamentation in the form of *kinnara* are to be made in a stepwell. The commentary to this verse 9 gives a slightly more detailed explanation of the meaning of the text. It adds the images of *mithuna* (couples) and specifies the idols of gods that are to be installed (*bimba-sthāpana*) as 'Varuṇa and other gods'.

In addition to above-mentioned sources, there is also an epigraphical evidence regarding sculptures at a water-monument. It is an inscription of Kantela village near Porbandar, dated saṃvat 1320¹ which mentions that the Governor of Gujarat, Samanta Sīmha, repaired the Revatī *kuṇḍa* situated on the seashore near Dvārakā and he embellished it with sculptures of Śiva, Viṣṇu (in his form as Jalaśāyīn), Gaṇeśa, Kṣetrapāla, Sūrya, Caṇḍikā, Revatī (the wife of Balarāma) and Balarāma.

The inscription seems to follow the already existing tradition which is elaborately expressed in the *Aparājitaṭṭṭhā* text. Whereas the textual reference gives a rather extensive list of sculptures, the inscription mentions only a few images which were installed in the Revatī *kuṇḍa*. However, most of the images of the inscription are included in the textual information with the exception of Revatī and Balarāma. A legend² tells that at Dvārakā, Balarāma the brother of Kṛṣṇa, married Revatī, the daughter of Raivata. Dvārakā, situated in the south-western corner of the peninsula of Saurashtra, is one of the sacred pilgrim-centres for the devotees of Kṛṣṇa. Because of the holiness of the place, the Revatī *kuṇḍa* was built near Dvārakā, at a spot where according to legend, Balarāma used to sport around with Revatī.

Because of this specific qualification of the spot, images of Balarāma and Revatī were installed in the Revatī *kuṇḍa* and therefore these two images are not prescribed in the general textual list of sculptures at a water-monument.

The *Aparājita-prcchā* reflects the architectural and sculptural forms of Western India that were prevalent in the 12th century, which is considered to be the date of this text.³ The inscription is about a century later, as it is dated saṃvat 1320, corresponding to A.D. 1265. The *Viśvakarma Vāstuśāstra* is a late redaction of the South Indian tradition.

One remarkable point to be analysed from the textual sources is that the major number of images prescribed for a pond are those of the major Hindu deities, Viṣṇu and Śiva, in their various aspects, names and forms. For example, Śrīdhara, Jalaśāyin, Varāha and Kṛṣṇa are forms or incarnations of Viṣṇu, and the 11 Rudras, Bhairava, Ūmāmaheśvara, Śaṅkara and Bhallasvami represent forms and aspects of Śiva. Moreover, the names Gaṇanāyaka and Gaṇādhipa refer both to leaders of the *Gaṇa* and are applied either to Śiva himself or his son Gaṇeśa. Harihara is the combined form of Viṣṇu and Śiva.

In addition to the images of the major gods, other important gods of the Hindu pantheon should be represented. These are in some cases not indicated by their classical names but by attributes and descriptive appellations, such as Bhāskara, Daṇḍapāṇī. It is easily perceptible that an idol of Varuṇa should be installed in a water-monument as enjoined in the *Viśvakarma Vāstuśāstra*. Varuṇa, riding on a *makara*, the sea-monster, is identified in later mythology as the very god of the waters.

Only a few individual or group images of goddesses are mentioned in the quoted sources; these are Gaṅgā, Caṇḍikā, Navadurgā, the eight Mātṛkā. Navadurgā includes the nine forms of Durgā;⁴ these are Kumārikā, Trimurtī, Kalyāṇī, Rohiṇī, Kālī, Caṇḍikā, Sāmbhavī, Durgā and Bhadrā. The eight Mātṛkā who are conceived as divine mothers and represent the female counterparts of the major Hindu gods are Brahmī, Vaiṣṇavī, Raudrī (or Māheśvarī), Kaumārī, Aindrī (or Indranī), Yamī, Varuṇī and Kauberī.⁵ It is understandable that an image of Gaṅgā, the river goddess, is to be installed in a water-place (as mentioned in the text). The other goddesses are closely related to the cult of Śiva. Especially the mātṛkā who are also conceived as the personified energies of the principal deities and therefore worshipped as fertility deities, are associated with water-monuments.

An image of Kṣetrapāla, being the guardian of the location, may also be installed at any monument and, therefore, also in a water-place. The images of the three Agni, of the Lokapāla and of the Dikpāla, the 12 Āditya and of sages, such as Durvāsa and Nārada, are mentioned in the elaborate list of the *Aparājita-prcchā* as suitable for a pond, but are missing in the inscriptional statement. It is interesting in this respect that the text mentions the 'three Agni', the three different kinds of sacrificial fires and not the individual personified fire-god Agni, being bearded, four-handed, three-eyed and having a goat as his *vāhana*. Kinnara figures and *mithuna* belong to the class of heavenly beings that are in the lower order of the hierarchy of gods of the Hindu pantheon. Only the more recent *Viśvakarmā* text advises installation of such images as a part of sculptural ornamentation in a stepwell.

Not all the sculptures of the above-mentioned lists are found in the actual monuments. Out of them, those of the major Hindu deities, Viṣṇu and Śiva, appear in nearly every stepwell. Often they are represented by their various aspects such as Bhairava, Jalaśāyin, Ūmā-Maheśvara, Lakṣmī-Nārāyaṇa, Viśvarūpa, etc. Very frequently also Gaṇeśa and Sūrya and forms of the mother-goddesses, such as Durgā, Caṇḍikā, and the seven mother-goddesses are actually installed in the niches of water-monuments. Occasionally, however, one can find images of individual sages named in the text as Durvāsa and Nārada, and in the Sūrya *kuṇḍa* of Modhera an image of Balarāma is also kept in a niche. The rest of the images, however, which are mentioned in the literary sources are not found in stepwells. There are, however, more

iconographic forms from the Hindu pantheon which actually appear in stepwells but do not figure in the quoted texts, the *Dasāvatāra*, *Navagraha*, *Lakulīśa*, *Śitalā*, narrative scenes and secular sculpture such as the images of humans and depictions of daily life and ornamental bands with floral, geometrical and animal patterns.

Religious sculpture which is found in a stepwell includes icons of individual gods, such as *Viṣṇu*, *Śiva*, *Brahma*, *Sūrya*, and goddesses such as *Lakṣmī*, and *Ūmā-Maheśvara*, *Lakṣmī-Nārāyaṇa*, *Gaṇeśa* with *Buddhi*, *Brahma* and *Brahmaṇī*, etc., images of celestial dancers and musicians, such as *Apsaras*, *Surasundarī* (heavenly beauties), *gandharva* (heavenly musicians), *gaṇa*; disease deities such as *Śitalā*; various groups of deities such as *Dasāvatāra*, *Navagraha*, *Saptamātṛkā*, *Dikpāla*; various sages and preceptors; scenes from the Hindu mythology such as *Rāmāyaṇa*; figures of popular deified heroes; and various symbols of gods and goddesses such as *triśūla* and piles of pots, etc.

All the godly sculptures are taken from the Hindu pantheon; not a single image from the Jaina or Buddhist mythology appears in a stepwell. However, a depiction of Buddha in the *padmāsana* posture is found as the ninth *avatāra* of *Viṣṇu* in the *Sāsu* stepwell of *Kāleśvarī nī Nāl* (Fig. 172). Moreover, in the *Rudabai* stepwell of *Adāla* in a panel of *Navagraha* a *padmāsana* image of Buddha appears (Fig. 193). This curious and out-of-place representation of the Buddha is due to an etymological misunderstanding on the part of the sculptor. *Budha* (the planet Mercury) is the fourth planet in the Hindu planetary list and should usually be depicted with a bow and *rudrākṣa* in his hands. Here the sculptor has confused the name *Budha* with that of Buddha and has depicted a seated image of Buddha.

The images of *Viṣṇu* are individual standing (*sthānaka*) idols with mostly four arms having a *śaṅkha* (conch), *cakra* (disc), *padma* (lotus) and *gadā* (mace) as their main identifying attributes. The *Rāñī* stepwell of *Pāṇā* has a standing image of *Viṣṇu* (Fig. 61) in one niche of the side-wall. The upper hands bear *śaṅkha* and *cakra*, whereas the lower ones are broken. Interesting are the miniature niches in the *parikara* depicting the various forms of *Viṣṇu*'s ten incarnations, such as *Narasimha*, *Paraśurāma*, *Balarāma*, *Kalki*, *Vāmana*, *Rāma*, *Buddha*. Dwarf figures, male and female attendants and monkeys flank *Viṣṇu*'s legs. In the stepwell of *Limbhoi* (Fig. 90), an image of *Viṣṇu* combined with his consort *Lakṣmī* or *Śrī* appears at the entrance to the stepped corridor. The concept of the divine Vaishnava couple is not depicted in early sculptures, but only after the Gupta period sculptures of *Viṣṇu* flanked by his consort appear. Very frequently, depictions of *Lakṣmī-Nārāyaṇa* are found from the 8th to the 11th centuries in Gujarat and Northern India.⁶ Mostly these are in seated postures and riding on their *vāhana* (vehicle) *Garuḍa*, having a conch, lotus or disc in their hands, as it is seen also in the sculpture of the *Limbhoi* stepwell. The concept of *Śrīdhara* ('carrier of *Śrī*') might have its visual expression in this couple showing *Viṣṇu* as the actual bearer of *Śrī*, his consort, who is also named *Lakṣmī*. Moreover, *Viṣṇu* is depicted with his ten incarnations (*dasāvatāra*) in a panel.

An individual icon of one of the incarnations of *Viṣṇu* such as *Varāha* appears on the pediment of the entrance pavilion of the *Vikia* stepwell (Fig. 122). The most expressive *Dasāvatāra* panel is seen in the *Sāsu* stepwell in *Kāleśvarī nī Nāl* (Figs. 170, 173). The first two incarnations show a rare and interesting iconography of *Matsya* and *Kūrma*, the fish and tortoise incarnations (Fig. 171) are shown in a naturalistic animal-form and are placed on a lotus. Both the animals, living in water, are symbolic of the water of life or sap of life, and are frequently depicted as miniature figures in the wall of the well in stepwells. *Varāha*, the boar-incarnation (Fig. 171), is depicted in his usual form as a human figure with a boar-head embracing his consort *Bhūdevī*, the earth-goddess, whom he had rescued from the waters according to mythology. *Narasimha*, the fourth incarnation of the man-lion (Fig. 171), is a standing human figure having the tiny figure of the demon *Hiraṇyakaśyapu* lying on his lap, the small

figure of Prahlāda, the demon's son and devotee of Viṣṇu, is seen kneeling with an *añjali-mudrā* at Narasimha's feet. Vāmana, the fifth dwarf-incarnation (Fig. 173), is in line with the iconographic descriptions in the *Viṣṇudharmottara* where he is seen as a *brahmacārī* (mendicant) with a staff in his hands. He has a stout body with an over-proportionate head and short legs. The next two incarnations (Fig. 172) are those of Paraśurāma with an axe in his hands and of Rāmacandra, the hero of the Rāmāyaṇa, with bow and arrow (the attributes are not clearly recognizable in the images). The eighth incarnation is Balarāma (Fig. 172) whose place is usually taken by Kṛṣṇa. Balarāma has a ploughshare and a pestle as his attributes. Buddha (Fig. 172), who was added to the 10 incarnations only after the Gupta period, is seated on a high lotus-seat, *padmāsana*, as prescribed in the iconographical texts, and resembles the image of Yoga Nārāyaṇa, the yogic form of Viṣṇu. Kalki, the last and future incarnation of Viṣṇu (Fig. 172), is to be represented as riding a horse holding a sword and shield.

Most frequently, sculpture of *Śeṣaśāyī* Viṣṇu are found in stepwells (Figs. 59, 152, 169). This image of Viṣṇu as lying on the world snake Śeṣa or Ananta is also known as Śeṣa Nārāyaṇa and Jalaśāyīn mūrti (the image as lying on the waters). Nārāyaṇa is the lord of the waters and identified with Viṣṇu.⁷ Śeṣa is the world snake which symbolises eternity as its name Ananta ('endlessness, eternity') suggests. In this form, Viṣṇu is depicted as lying on the coils of Śeṣa, the various snakehoods form a halo around his head. He keeps one arm under his head in order to rest it comfortably. Brahma is to be depicted as seated on a lotus which is evolving out of Viṣṇu's navel (therefore his name is *padmanābha*, 'having a lotus in his navel'). His consorts are depicted near him, Lakṣmī near his head and Bhūdevī at his feet. The sages Bhṛgu and Mārkaṇḍeya are at his sides and the demons Madhu and Kaiṭabha, holding swords, are at his feet. Also *ayudhapuruṣa*, personified weapons, and Garuḍa, his vehicle (*vāhana*), and the sun-god Sūrya could be depicted. Śeṣa is lying on curly waves, in which *nāga* figures. Auspicious symbols such as a pot and the *paduka* (Viṣṇu's feet) alternate in a horizontal row. In some cases, the *śeṣaśāyī* panel is crowned by a row of Navagraha, the nine planets, for example, in the Rātalā stepwell of Rāmpura (see Fig. 152) and Rāñī stepwell (Fig. 59). One aspect of Viṣṇu is that of Viśvarūpa ('having the form of the universe') (Fig. 63) who is considered to be the lord of the universe. Interestingly his image is found in a seated position with 20 arms carrying various attributes in the Rāñī stepwell at Pāṭaṇ.⁸

Hayagrīva ('the horse-necked one') is a form that Viṣṇu assumed in order to relieve the universe of a demon who by a boon was indestructible by a human or animal, according to Puranic mythology. An image of his is shown in the base of a pillar in the Ra Khengar stepwell, having four arms holding a *śaṅkha*, *gadā*, *akṣamālā* and *kamaṇḍalu* (Fig. 233). Idols of Śiva appear as individual standing images with a *triśūla* in their hands (for example, the Rāñī stepwell in Pāṭaṇ, Figs. 60, 62). Images of Śiva-Bhairava holding a *ḍamaru* and a skull (in Mīnal stepwell of Virpur), holding a *ḍamaru* and a snake (Fig. 166), holding a *ḍamaru* and accompanied by a dog (Fig. 191), or holding a *triśūla*, a snake, *akṣamālā* and a waterflask (in Rāñī stepwell of Pāṭaṇ) appear in the different monuments. The Bhairava image in the Madha stepwell in Vaḍhvān is placed at the beginning of the stepped corridor and might serve as a kind of *dvārapāla*, or guardian of the door. He has *muṇḍa*, a head, a sword and an axe in his hands. The recent image of Śiva in the Wāṅkāner stepwell (Fig. 234) serves as a water-spring, reflecting the mythological incident of Gaṅgā issuing out from his head.

In mythology Bhairava as Virabhadra is connected with Saptamātṛkā. He is usually depicted as part of their panels, along with Gaṇeśa (in the Sāsu stepwell in Kāleśvarī nī Nāl—Fig. 175). Along with the figure of Gaṇeśa, Bhairava is depicted in one niche in the stepwell of Sathāmba (Fig. 94). Here Bhairava carries a *ḍamaru* and a shield in his upper hands and touches a deer, his usual accompanying animal, with his lower hand.⁹

The divine Śaivaite couple Ūmā-Maheśvara embellished the entrance of the Limbhoi stepwell (Fig. 89) having as counterpart the Vaiṣṇava couple Lakṣmī-Nārāyaṇa on the opposite side. Śiva, also called Maheśvara, is carrying his consort on his lap and holds a *triśūla* and *akṣamālā* in two of his four hands. Both figures are sitting on their vehicle, Nandi.

Idols of Brahma rarely appear in a stepwell, the exception being the Rāñī stepwell which is the richest mine of sculpture and iconography connected with a water-monument. According to classical iconography, Brahma has four heads, symbolic of the four *veda*, the four *yuga* or eras and the four *varṇa* or castes. He is usually holding some of the following attributes in four arms, a small or large wooden ladle (*śruva* or *śruk*), ghee pot, rosary, bundle of *kuśa* grass, *kamaṇḍalu* or monk's pot, book. He is seated on or accompanied by a *haṁsa* or goose, his vehicle.¹⁰ In the idol of the Rāñī stepwell (Fig. 64) he is coupled with the image of his consort Brahmī with a ladle, a *gada*, an *akṣamālā* and a *kamaṇḍalu* in her four arms. Brahma's image of the Rāñī stepwell resembles closely that of Sopara in Thana district in iconography and style.¹¹ He is also depicted with his consort in the Rāñī stepwell as a divine couple (Fig. 64).

The sun-god Sūrya is generally depicted with two lotuses in his hands and riding a chariot which is drawn by seven horses. Images of Sūrya appear in the Rāñī stepwell and the Jñān stepwell (Fig. 209). They are standing figures holding two lotuses, without the horse-chariot, however. Each lotus of the idol in the Jñān stepwell bears small seated figures which are too defaced for certain identification, but could be his consorts or attendants. A remarkable feature is that both the images, that of the Rāñī and Jñān stepwells, are contemporary and their headdress is strikingly similar even in small details such as the shape of the crown and two projecting ends at the base of the crown.

Frequently, an image of Gaṇeśa is installed in a stepwell. Being the auspicious and benevolent god removing obstacles, he is invoked before all undertakings, and therefore also installed at the entrance to any building. In a stepwell, the elephant-faced god appears in a separate niche (Figs. 100, 164), along with Bhairava (Fig. 94), and in the panel of Aṣṭamātrkā (Fig. 174), or as a small miniature figure seated in a compartment which is carved into the lintel over the door (Fig. 31) or across the stepped corridor (in the Rudabai stepwell, Adālaḥ) or often also in a niche in the back wall of the well (Fig. 198), where he is flanked by female *cauri*-bearers or his consorts Ṛddhi ('wealth') and Siddhi ('attainment'). His vehicle, the rat, is usually beside him. The standing figure of Gaṇeśa in the Sathāmba stepwell (Fig. 93) and the seated figure of the Dhrāṅgadhṛā (Fig. 100) and Isānpur (Fig. 164) stepwells show him with his protruding belly, elephant's trunk, flying ears, an axe and elephant's goad, his usual attributes, a water-pot and an unidentified object in his four hands. His most typical attribute, the bowl of sweets, is not recognisable.

Mahīśasuramardīṇī figures of the goddess killing the buffalo-demon Mahīśa are found frequently in stepwells. In the two examples presented here (Figs. 101, 243), the goddess is shown trampling upon the buffalo from whose decapitated head the antropomorphic figure of the demon issues out. The ancient sculpture in the Aṅkol Mātā stepwell, Dāvad, of the goddess killing the buffalo-demon, has twenty arms and carries various weapons and attributes, such as sword, shield, *triśūla*, cup of blood, and is worshipped by villagers (Fig. 33).

The goddess Bhairavī occasionally appears on the sidewalls of the Rāñī stepwell, Pāṭaṇ (Fig. 59). Like Bhairava, this goddess Bhairavī is shown carrying a *ḍamaru* and a stick with a skull.

A seated figure of Lakṣmī carrying two lotuses in her upper hands flanked by two female *cauri*-bearers appears in the centre of the wall of the Sathāmba stepwell (Fig. 92). Also the stepwell in Isānpur has a seated image of Lakṣmī with two lotuses in her upper hands. In addition to the above deities, there are also representations of celestial musicians and dancers, who belong to the various classes of Gandharva, Kinnara, Gaṇa, Apsara, Surasundarī, Nayikā,

etc. and are shown in stepwells engaged in dancing (Figs. 93, 95, 96, 98), playing musical instruments (Fig. 92), doing coiffure and toilet (Figs. 59, 60, 61).

Śītalā, who is the goddess of smallpox, is usually shown riding a donkey and carrying a broom and a winnowing-fan. A fragmentary image of this goddess is found in a niche in the Sāsu stepwell of Kāleśvarī nī Nāl (Fig. 177) showing her riding a donkey and carrying a winnowing-fan in her two upper hands behind her head. The other two hands are so broken that the broom or any other emblem carried by her is not recognisable.

The Navagraha are usually depicted as a row of nine anthropomorphic figures, showing the sun, the moon, the five planets and the ascending and descending nodes of the moon, Rāhu and Ketu. According to the prescription in the *Agni Purāṇa* (Chap. I, v. 187], each of the seven planets is carrying specific attributes, such as a sacrificial pitcher, a rosary, a spear, etc. But according to the evidence of the stepwell panels, the attributes often vary. Sometimes all the planets are shown with a sacrificial pot in their left hand (Figs. 178, 179, 180), or as a row of seated images with *varadā* or other *mudrā* (Fig. 59), or as stereotyped standing figures with identical attributes (Figs. 152, 193). Rāhu is always depicted as a large-sized bust and Ketu as half-human half-snake (Fig. 180). The panels of Navagraha appear either in a niche (Fig. 178) or on the door lintel (Fig. 193) or above the Śeṣaśāyin image (Figs. 59, 152).

The mother-goddesses on the panel of Mātṛkā that appear in stepwells are visualised as a row of five, seven or ten images. The panel of the Bakhori stepwell (Fig. 48) clearly depicts five images of Mātṛkā. Four of these have full breasts and are holding a child on their left side, the fifth one is Cāmuṇḍā with her usual emaciated body with dry sagging breasts and the stick with the skull in her upper hand. The sixth figure is difficult to identify, although a dagger in one lower hand is recognisable, but it could be Virabhadra who usually accompanies Mātṛkā. Saptamātṛkā, the seven mother-goddesses, in Caumukhi stepwell in Chobari (Fig. 239), are not flanked by any other figures. An excellent full panel of Aṣṭamātṛkā, the eight mother-goddesses, with Gaṇeśa and Virabhadra is found in the Sāsu stepwell of Kāleśvarī nī Nāl (Figs. 174 to 176). The panel is arranged in the usual manner of a *pīṭha*, plinth for Mātṛkā, which is in the form of an elongated U, the back part of which is occupied by six figures. The panel starts with the figure of Cāmuṇḍā with dry sagging breasts, holding a *triśūla* and the stick with a skull, which are some of her identifying attributes. The next figure is that of Virabhadra, followed by Brahmanī with a ladle and *varadā mudrā*, Vaiṣṇavī with a *śaṅkha* and stick, Kauberī with a lotus and *gadā*, Varāhī having a boar-face, Yamī with a stick, Indraṇī or Aindrī with goad and axe, Gaṇeśa, and Raudrī.

Some small figures of goddesses in carved compartments in the pillar bases of the Ra Khengar stepwell are most probably to be identified as Mātṛkā images (Figs. 230, 232).

The Rāṇī stepwell shows numerous images of *ṛṣi*, sages. These are depicted in narrow vertical compartments between the main niches. The sages are shown wearing a loin-cloth and a long beard and are occupied with ascetic practices.

A panel in Rāṇī stepwell of Pāṭaṇ shows a violent battle-scene with speeding horse-chariot warriors and fighters involved in duels in the upper panel, whereas the lower one is filled by monkey warriors, each one holding a bow. The identification of these scenes as narrating the war-episodes from the *Rāmāyaṇa* is most likely to be correct.

The entablature over the pillars in the Sevasi stepwell (Fig. 119) is embellished with figures of deified heroes which are similar to those found on actual hero-stones all over Gujarat. The figures in the stepwell show a standing man leading a fully caparisoned horse towards him. The hero is wearing a *dhoti*, a lower garment, a crown on his head and ornaments on arms, chest and ankles. The horse is trampling on a wave with his raised leg.

Occasionally the goddess is symbolically represented through her lion-vehicle and her *trīśūla* emblem (Figs. 194, 196). In a niche at Adāraj, the concept of Navadurgā¹² seems to have been depicted by nine pots, arranged in three piles of three pots each (Fig. 197).

PART B: SECULAR SCULPTURE

Secular sculpture in stepwells includes scenes from daily life, such as erotic scenes, butter-churning, fighting scenes, royal situations, guardians, ordinary female figures, and, secondly, ornate friezes, panels and string-courses with floral, geometrical and animal motifs and bracket figures and sculptures of water-animals.

Maithuna, erotic scenes, are depicted either in separate niches or panels or compartments (Figs. 40, 42, 55) or in narrow niches filling up spaces between other ornamentations on brackets (Fig. 137) or on a lintel over a niche or as a part of a long panel (Fig. 191). *Maithuna* panels depict plain intercourse scenes (Fig. 55), orgiastic scenes (Figs. 40, 42), intercourse with animals. Often the narrow spaces are showing a couple engaged in intercourse, in various positions.

Fighting and acrobatic scenes show in a lively manner quarrelling men and men exposing their muscles (Fig. 40). In the Sathāmba stepwell, the back wall of the well is covered with scenes of musicians and in addition to these with reliefs of fighting elephants and horses, and fighters on horses which are just about to jump forward (Fig. 95). Other figures of riders on real horses or mythical animals with a horse-body, lion-face and bushy tails appear on the struts in the well of the Ra Khengar stepwell (Figs. 226, 227, 228) and are also found in the Mādhā stepwell of Vāḍhvāṇ (Fig. 137).

A panel showing various scenes from daily life such as butter-churning, combing hair, a king on his royal seat attended by two female *cauri*-bearers, *maithuna* scenes, sculptures of Bhairava, etc., is carved on the lintel in the Adāraj stepwell (Fig. 191). Very similar in composition, but not in size, is the panel in the Āsāpurī stepwell in Ahmedabad.

Individual sculptures of persons are very rare in a stepwell. The Mādhā stepwell of Vāḍhvāṇ has in a niche a sculpture of a couple (Fig. 133). The two figures were interpreted as the donor-couple, the minister-brothers of the Vāghelā chief Karan. However, this attribution is doubtful, as there is no other case of a donor-figure in a stepwell. Two realistic figures of door-keeper in royal costumes guard the entrance to the stepped corridor in the Dhrāṅgaohrā stepwell (Fig. 104). They are both dressed in a long, plaited skirt, kept in shape by a broad ornamental girdle. One hand carries an *akṣamālā*, the other is broken. A broad well tied turban and huge earrings decorate the head. A dagger and a sword are attached.

Very unique are the depictions of daily life on the partition-walls at the bathing-places of the Aṅkol Mātā stepwell (Fig. 47).

Miniature figures of women holding a water-pot in their upraised hands are frequently met with on the struts of the Ra Khengar stepwell (Figs. 226, 228).

Ornamented string-courses run along the sidewalls of the stepped corridor in the various storeys (Fig. 82), along the inner wall (Figs. 190, 198), around the lintels in the entrance hall (Fig. 110), underneath balcony windows, for example, in the Adāraj stepwell (Fig. 188), the Ra Khengar stepwell (Figs. 220, 224) and Mehmudābād (Fig. 236). The most lively ones show naturalistic animals such as elephants and horses in activity with men (Figs. 188, 199, 200) or friezes of mythical *haṁsa* and peacocks, occasionally with bushy tails. The geometrical patterns in the horizontal rows are abstract flower motifs set in squares (Fig. 110) and the floral string-courses display a fantastic variety of scrolls, leaf and flower-patterns (Fig. 82).

The stepwells constructed under Muslim patronage do not have any prominent figurative ornamentation in the niches. Their part is taken by elaborate and filigree-like scrolls and

leafy branches, sometimes evolving out of a vase, resembling the *pūrṇaghaṭa* motif (Fig. 80). Even stepwells of the Hindu tradition, but which were dug in the Muslim period, as for example, the Adālaḥ stepwell, copied these typically Islamic floral niches so truthfully that one hardly can recognise any difference (Figs. 195, 201). In the stepwell of Chatral also such floral niches are found, but with tiny figures of Gaṇeśa and Lakṣmī at the bottom (Figs. 214, 215).

A typical feature of numerous stepwells is the various kinds of fanciful carvings of bracket figures, even if the stepwell is not ornamented otherwise. The most representative example is the Vikia stepwell near Ghumli, where the brackets are made into *kīrtimukha* or human figures (Fig. 131) with lion-faces (Fig. 130). Other animals like boar, fish, monkey also appear in these brackets.

In other stepwells, similar bracket figures are attached to the capital; for example, in the Ra Khengar (Fig. 125), Kāpaḍvañj (Fig. 69), and Dhandhalpur (Fig. 157) stepwells.

Sculptures that only appear at or in connection with water-monuments especially with stepwells are those of *makara*, the sea-monster, of fish, tortoise, or snakes. Their appearance in stepwells is easily understandable, as a symbolic representation of the element water, as all these animals live in water only. Most interesting is the idea to carve a huge sculpture of a *makara* (Figs. 44, 45, 46, 47) in the form of a crocodile which is swallowing a man. The *makara* is placed on top of the partition-wall at the bathing place adjacent to the well of the Aṅkol Mātā stepwell in Dāvad and the stepwell of Charada. The water hauled up from the well was led through a channelling system to this bathing place which has five outlets carved as rosettes on each side. The partition walls themselves are covered with scenes from daily life. These carvings, however, are a later addition to the ancient stepwell; especially the *makara* (in Fig. 44) displays features of a recent and folkish style.

Other miniature carvings of these animals can be discovered in the wall of the well in the Sathāmba stepwell, in the stepwells in Chatral and Mangrol.

PART C: STEPWELLS IN JAINA MYTHOLOGY

Stepwells are traditionally connected with the Jaina concept of *samavasaraṇa*, the eternal congregation of a *tīrthaṅkara*, a religious teacher of Jainism. Jaina canonical literature gives detailed description of this concept, in which the *tīrthaṅkara*, after attaining highest knowledge (*kevalajñāna*), is sitting on a three-tiered platform and is preaching to the whole universe in the four directions.

In Jaina art one can find representations of this concept in manuscript illustration and miniature painting, sculpture and architecture. The *Triṣaṣṭi-śalākāpuruṣacaritra* by Hemacandra¹³ who lived in Gujarat from 1088 to 1172 describes in flowery language how the Indras and other gods were setting up the *samavasaraṇa*, abundant in jewels, gold, mirrors, flags and flowers, with three ramparts, each of which had gateways in the four directions, and at the sides of each a tank "with golden lotuses having four gates like the rampart of the *samavasaraṇa*" was built.

The description given by Moticandra¹⁴ mentions: "... There are two stepwells in each corner, when it is square, and one (at each gateway) when it is a round *samavasaraṇa*."

In manuscript illustration and miniature painting these tanks or stepwells look like square ponds filled with wavy water, whereas in the existing architectural structure of a *samavasaraṇa* in the temple-city of Mt Shatrunjaya in Saurashtra miniature replicas of stepwells are set at the side of each of the four entrance gates. This entire structure has three tapering storeys in each of which a fourfold image of a *tīrthaṅkara* is placed. The miniature stepwells are carved into the ground and about 30 cm long and 10 cm broad. They have two entrance towers and several steps leading down to the well. As the officiating priest explained, these stepwells are filled with water and flowers at the time of festivals, in memory of the mythological ones which had "golden lotuses".

APPENDIX I

The Song of Mādhā Stepwell in Vāḍhvān¹

Since twelve years Mādhā stepwell is being dug,
but no water has appeared, my dear,
call the fortune-teller and see the future,
call the fortune-teller, my dear,
the expert fortune-teller also said:
offer the son and daughter-in-law, my dear,
riding and playing with the horse, Vajmal, my son,
grandfather is calling you, my dear,
what are you telling me, my able grandfather,
why do you need me, my dear,
the expert fortune-teller also said:
offer the son and daughter-in-law, my dear,
why are you asking me, my able grandfather,
go and ask the one who is born of another, my dear,
feeding the son, oh daughter-in-law,
the mother-in-law is calling you, my dear,
what are you saying, my able mother-in-law,
why do you need me, my dear,
the expert fortune-teller also said:
Mādhā vāv demands a pair, my dear,
my dear barber, my brother barber,
take this message, my dear,
tell my mother this much,
to bring me the veilcloth and headgear, my dear,
with songs and music (they) came to Mādhā vāv,
take, Mādhā vāv, this pair, my dear,
as they went down the first step,
water appeared in the underworld, my dear,
as they went down the second step,
the waters were seen, my dear,
as they went down the third step,
the waters were up to the ankles, my dear,
as they went down the fourth step,
the waters were up to the knees, my dear,
as they went down the fifth step,
the waters were up to the waist, my dear.
as they went down the sixth step,
the waters were up to the chest, my dear,
as they went down the seventh step,
helplessly the soul departed, my dear.

APPENDIX 2

The Inscription on Dada Harir Stepwell²

- line 1 Obeisance to the Creator!
- verse 1 Obeisance to thee, the lord of the waters, who hast the form of all waters!
Obeisance to thee, O Varuṇa! Obeisance to [thee], the witness of charitable deeds!
- v. 2 Victorious is the mother of the three worlds, the supreme śakti, kuṇḍalini, by name
whose feet are praised by gods and men [and] who ever (exists) in the form of wells.
- v. 3 I bow to Viśvakarman, the giver of every desired [object], by whose grace all men
are able to perform work.
1. 6 Hail! Prosperity! In the Gurjara country, in the glorious city of Ahmedābād, in the
victorious reign of the Pādshāh, the thrice glorious Mahmūd—the general superin-
tendent at the door of the King's harem, Bāi Śrī Ḥarīr by name, caused a well to be
built in order to please God, in Ḥarīrpur, situated to the north-east of the glorious
city, for the use of the eighty-four lākhs of the various living beings, [viz] men,
beasts, birds, trees, etc. who may have come from the four quarters, and are tor-
mented with thirst, in Saṁvat 1556 [and] in the current śāka year 1421 on the 13th
[tithi] of the bright [fortnight] of Pausa on Monday.
1. 14 If one looks at the mass of the deep nectarlike water [of this well], it seems as
though the ocean of milk had taken up its abode in it.
1. 15 As long as the moon and the sun [endure], may this [well] remain for the nourish-
ment of insects, birds, plants and animals!
1. 17 The amount of money expended on this [well] was 3,29,000 in all.
- vv. 1 and 2 This well was built by the powerful, religious, chief councillor of King Maḥmūd,
Ḥarīr by name, at a place where four roads meet, crowded with good men, who
come from the four quarters. As long as the moon and the sun [endure], may
[the water of] this sweet well be drunk by men!
- v. 3 [By founding?] forts, pure groves, pools of water by hundreds, and feeding houses
step by step, the wealthy earn merit.
- v. 4 [The lady] Bāi Śrī Ḥarīr by name built this well at great expense, in order to
benefit the world.
1. 24 At the building of the well, the overseer [was] His Majesty's servant Malik Śrī
Bihāmad; also the gajādhara, the Vaiśya sūtra[dhāra] Virā; also the servant,
sū[tradhāra] Devā; Śrī Girāṇā; Mahan[t] Sāyāā; also Mahan[t] Virā.

APPENDIX 3

The Inscription of Rudabai Stepwell, Adāraj³

- v. 8 Rudadevi, the Rani of King Virasimha, resembling Lakshmi, caused this well to be made by the best of masons.
- v. 9 Hail! Now in the Kali age, after fifty-five years added to fifteen hundred of the era of king Vikramarka have passed, the queen of the valorous king Virasimha, by name Ruda, the good daughter of the lord of Vena [probably Vina near Nadiad], caused to be made this well which is like the heavenly river [the Ganges].
- v. 15 It is said that for the construction of the well 5 lakhs of tankas were spent from the treasury by this queen Rudadevi.
- v. 16 In the good village of Adāraj, queen Ruda, beloved of Virasimha, made this well with hundreds of compartments.
- [in prose] Hail! When the year 1555 of the era of king Vikrama, . . . that is the year 1420 of the Saka era, was current, when the sun was in the northerly course, on Wednesday, the fifth of the bright fortnight of the month Magha [16 January 1499], in the Sisira season, . . . the moon being in Pisces, in the victorious reign of Badshah Mahmud, queen Rudaba, lawful wife of king Virasimha, son of Mahipa, of the Vaghela clan, who ruled over the district of Dandahi, and was the jewel in the band of kings, caused to be made the well in Adāraj in order that her [deceased] husband might attain to the world which is the abode of the gods. Marana, son of Bhima, Srimali by caste, made the well . . . May it be firm and durable as long as the sun and the moon [are in heavens].

APPENDIX 4

The Inscription of Navalakhi Stepwell, Baroda⁴

In the name of God, the Most Merciful, the Most Compassionate. There is no God, but God and Muhammad is the apostle of God.

After offering praise to God Almighty and invoking blessings on His apostle [it may be stated] that during the administration of the greatest Khān, the majestic ruler, Ulugh-i-Qutlugh [the great prince], the auspicious [chief] of exalted rank (may his position remain high) Zafar Khān, the son of Wajihu'l-Mulk, the fief-holder [or Governor] of the territory of Gujarat, by the gracious help of the Malik of Maliks of the East, Malik Ādam, son of Sulaimān, the fief-holder of Barodra (may God Almighty preserve his life), Naṣīru'd-Daula Wad-Dīn Amir Nhattū Thākur (may his rank remain for ever), designed and completed the building of this well by the grace of God Almighty. This was [done] on the first of the revered month of Rajab in 807 H, [corresponding to Saturday, 3 January 1405].

Glossary

a

<i>akṣamālā</i>	(Sk.) rosary as attribute of deities
<i>aṅgaṇa</i>	(Sk.) open courtyard, area or space around pool in stepwell
<i>anjali-mudrā</i>	(Sk.) pose with folded hands
<i>antarāla</i>	(Sk.) vestibule between sanctum and entrance pavilion
<i>apsaras</i>	(Sk.) female divinity fond of water
<i>abhaya-mudrā</i>	(Sk.) gesture of 'do-not-fear', showing the full upright palm
<i>amālaka</i>	(Sk.) finial on top of the North Indian spire in the form of a flat, fluted melon
<i>amṛta-varṣiṇī</i>	(Sk.) 'showerer of nectar', denomination given to a stepwell
<i>amburāja</i>	(Sk.) 'king of water', a name of Varuṇa
<i>ardhaparyāṅkara</i>	(Sk.) sitting posture with one leg hanging down and one resting on the stool, same as <i>lalitāsana</i>
<i>aśva-thara</i>	(Sk.) horizontal moulding in temple plinth ornamented with horses
<i>aśvamedha</i>	(Sk.) brahmanical horse-sacrifice
<i>aṣṭa-dīpālā</i>	(Sk.) the eight presiding deities of directions
<i>aṣṭa-mātṛkā</i>	(Sk.) the eight mother-goddesses

ā

<i>āyudha-puruṣa</i>	(Sk.) personified weapon as attribute of deities
<i>āsana-paṭṭā</i>	(Sk.) horizontal sitting-stone over <i>vedikā</i>

ī

<i>īlika-valaṇā</i>	(Sk.) ornamental motif on pediment or <i>torāṇa</i> in the form of numerous wave or caterpillar-like windings
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u

<i>uttaraṅga</i>	(Sk.) lintel, often sculptured with a frieze
<i>udgama</i>	(Sk.) pediment over niche and in roofing of pavilion
<i>urah-śṛṅga</i>	(Sk.) miniature spires on temple spire of the North Indian tradition

e

<i>ekavaktra</i>	(Sk.) having one entrance
<i>ekamukha</i>	(Sk.) having one entrance
<i>ekāṇḍaka</i>	(Sk.) one-spined, as Latina spire

rṣi

(Sk.) sage, preceptor

k

kakṣāsana

(Sk.) sloping backrest at stone-bench

kaṭisama

(Sk.) dance posture with one leg lifted up

kamaṇḍalu

(Sk.) water-jar

kaṇṇaka

(Sk.) knife-edged convex moulding

kaṇṭhā

(Guj.) geographical region

kicaka

(Sk.) figure on bracket of pillar

kinnara

(Sk.) heavenly being, half-man half-bird

kīrti-toraṇa

(Sk.) gate of glory

kīrti-mukha

(Sk.) ornamental motif with lion-like face

kīrti-stambha

(Sk.) pillar of glory

kuṇḍa

(Sk.) pond

kumāra

(Sk.) figure on bracket of pillar

kumbhi

(Sk.) base of a pillar

kūṭa

(Sk.) tower-like pavilion construction in stepwell

kūṭakāra

(Sk.) ornamental motif in form of miniature huts

kūpa

(Sk.) well

kūā

(Hindi)

kūo

(Guj.)

kūlikā

(Sk.) niche

kevala

(Sk.) ledge-like horizontal moulding

koṭha

(Guj.) storey

g

gajathara

(Sk.) horizontal moulding in plinth with elephants

gadā

(Sk.) club as attribute for deities

gaṇa

(Sk.) dwarf-like attendants of Śiva

gandharva

(Sk.) heavenly musician

garbhagrha

(Sk.) sanctum

gavakṣa

(Sk.) niche

guru

(Sk.) teacher, preceptor, depicted with beard

grāsapaṭṭikā

(Sk.) ornamental band with mythical lion-faces

grāsamukha

(Sk.) ornamental motif with mythical lion-like faces

gh

ghaṭa-pallava

(Sk.) ornamental and pillar motif in the form of a vase with emerging scrolls

*ghaṭa-(or ghaṭi-)
yantra*

(Sk.) device for hauling up water by buckets in stepwell

c

<i>cakra</i>	(Sk.) disc as attribute of deities
<i>caturmukhī</i> or <i>caumukhi</i>	(Sk.) 'having four entrances', type of temple and stepwell with four entrances and cross-shaped plan
<i>caturvaktra</i>	(Sk.) 'having four entrances', Vijayā type of stepwell
<i>candra-śālā</i>	(Sk.) ornamental motif in the form of a dormer-window
<i>carika-rohaṇa</i>	(Sk.) circular staircase descending along the wall of the well
<i>caitya</i>	(Sk.) ornamental motif in the form of a dormer-window
<i>cauki</i>	(Guj.) bay between pilasters, often with niche
<i>cauri</i>	(Sk.) fly-whisk, usually held by attendants of godly and royal figures

ch

<i>chaḍya</i>	(Sk.) shed-like ledge or eave
<i>chajjā</i>	(Prakr.)

j

<i>jagatī</i>	(Sk.) moulded terrace of temple
<i>jaṅgha</i>	(Sk.) temple wall
<i>jaḍya-kumbha</i>	(Sk.) horizontal projecting moulding
<i>jaladeva, -devī,</i>	(Sk.) water-god, -goddess
<i>jalapati</i>	(Sk.) 'Lord of waters', Varuṇa
<i>jalādhipa</i>	(Sk.) 'Ruler of waters', Varuṇa
<i>jayā</i>	(Sk.) class of stepwell with three entrances and nine pavilion-towers
<i>jāla, jālaka</i>	(Sk.) lattice work on temple-spire and pediment above niche

ḍ

<i>ḍamaru</i>	(Sk.) hourglass-shaped drum as attribute of deities
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t

<i>tālukā</i>	(Guj.) sub-district
<i>taḍāka, taḍāga</i>	(Sk.) tank, lake
<i>tālāo, tālāv</i>	(Guj.)
<i>tālāb</i>	(Hindi)
<i>tīrtha</i>	(Sk.) sacred bathing-place at river, lake, ocean or sacred place for pilgrimage, also applied to stepwell
<i>toraṇa</i>	(Sk.) gateway
<i>trikūṭa</i>	(Sk.) 'having three pavilion-towers', said of Nandā type of stepwell
<i>tribhaṅga</i>	(Sk.) pose with three flexures
<i>trivaktra</i>	(Sk.) 'having three entrances', said of Jayā type of stepwell
<i>triśūla</i>	(Sk.) trident as attribute of deities

d

<i>dikpāla</i>	(Sk.) presiding deity of directions, cp. <i>aṣṭa-dikpāla</i>
<i>dvārapāla</i>	(Sk.) 'guardian of door', sculptures at entrance to temple or rarely to stepwell
<i>dvāra-śākhā</i>	(Sk.) carved doorframe with various courses
<i>dvimukha</i>	(Sk.) 'having two entrances', said of Bhadrā type of stepwell
<i>dvibhaṅga</i>	(Sk.) pose with double flexure
<i>dvivaktra</i>	(Sk.) 'having two entrances', said of Bhadrā type of stepwell

n

<i>nakṣatra</i>	(Sk.) lunar mansion
<i>Nandā</i>	(Sk.) class of stepwell with one entrance and three pavilion-towers
<i>nandyāvarta</i>	(Sk.) ornamental motif in the form of an elaborate cross
<i>narapīṭha</i> or <i>-thara</i>	(Sk.) horizontal moulding with scenes from human life
<i>Navagraha</i>	(Sk.) the Nine Planets, often in stepwell
<i>Navadurgā</i>	(Sk.) Durgā in her nine forms, sculpture prescribed for water-monuments
<i>navarātri</i>	(Sk./Guj.) 'the nine nights', festival sacred to Goddess
<i>nāga</i>	(Sk.) snake, often a figure in stepwell
<i>nāgara</i>	(Sk.) one-spired curvilinear spire of North Indian temple
<i>nāyikā</i>	(Sk.) heavenly heroine, often in stepwell
<i>nāla</i>	(Guj.) long and narrow channel-like passage, stepped corridor in stepwell
<i>ṇṛtya-maṇḍapa</i>	(Sk.) dancing hall of temple

p

<i>panca-śākhā</i>	(Sk.) doorframe with five courses
<i>pañcāyatana</i>	(Sk.) temple group of five
<i>paṭa</i>	(Sk.) entablature, cross-beam
<i>pañkti</i>	(Sk.) spiral staircase
<i>patra-śākhā</i>	(Sk.) ornamental band with leaf-pattern in doorframe
<i>padmāsana</i>	(Sk.) lotus-seat
<i>parikarma</i>	(Sk.) ornamentation around niche or sculpture
<i>parivāha</i>	(Sk.) drain, water-channel
<i>pariśiṣṭa</i>	(Sk.) class of works supplementary to Sūtra
<i>pāda</i>	(Sk.) pillar in stepwell
<i>pāduka</i>	(Sk.) 'foot', representation of Viṣṇu's feet
<i>pāśi</i>	(Sk.) 'bearer of noose', Varuṇa
<i>pīṭha</i>	(Sk.) moulded basement of temple or niche
<i>purāṇa</i>	(Sk.) text of ancient mythology
<i>puṣkariṇī</i>	(Sk.) lotus pond
<i>pūjā</i>	(Sk.) worship
<i>pūrṇa-kalaśa</i>	(Sk.) 'full vase', motif in form of vase as temple finial
<i>purṇa-ghaṭa</i>	(Sk.) 'full vase' motif on pillar or in niche in the form of vase with abundance of scrolls and leafy branches
<i>peḍya</i>	(Sk.) jamb of door, often sculptured in three, five or seven distinct courses
<i>prakāra devatā</i> or <i>pāda devatā</i>	(Sk.) deities stationed on periphery of <i>vastu-puruṣa-maṇḍala</i>

<i>praṇālī</i>	(Sk.) sluice, water-drain
<i>pratoḷī</i>	(Guj.) lateral gate-towers at entrance to lake, pond or stepwell
<i>prapā</i>	(Sk.) place for supply of water

ph

<i>phāṁsakāra</i>	(Sk.) pyramidal crowning of pavilion or temple with horizontal receding tiers
<i>phāṁsāna</i>	(Sk.) horizontal receding tier of <i>phāṁsakāra</i> or pyramidal roofing
<i>phalaka</i>	(Sk.) ornamental motif in elongated section on <i>vedikā</i>

b

<i>bāoli</i> or <i>bāuli</i>	(Hindi) stepwell
<i>bālikā</i>	(Sk.) embankment

bh

<i>Bhadrā</i>	(Sk.) class of stepwell with two entrances and six pavilion-towers
<i>bhadrakā</i>	(Sk.) type of pillar with square shaft and recesses
<i>bharanī</i>	(Sk.) upper ledge-like moulding over shaft of pillar
<i>bhāra-paṭṭa</i>	(Sk.) cross-beam over pillars to support roofing
<i>bhīṭī</i>	(Sk.) sidewall in stepwell
<i>bhramanī</i>	(Sk.) ambulatory around sanctum or shaft in stepwell

m

<i>makara</i>	(Sk.) mythical sea-animal, figure in stepwell
<i>maḍala</i>	(Sk.) projecting strut in well or stepwell
<i>maṇḍapa</i>	(Sk.) pavilion, in pavilion-towers of stepwell
<i>maṭṭavarāṇa</i>	(Sk.) sloping backrest, same as <i>kakṣāsana</i>
<i>mantra</i>	(Sk.) sacred syllable
<i>mahājala</i>	(Sk.) 'Lord of waters', Varuṇa
<i>mālā</i>	(Sk.) ornamental motif with garlands
<i>mithuna</i>	(Sk.) sculpture depicting a couple
<i>miśraka</i>	(Sk.) 'mixed', type of pillar with square, octagonal, sixteen-sided and round parts
<i>miḥrab</i>	(Arab.) niche for prayer in western wall of mosque
<i>mukha</i>	(Sk.) 'face', entrance
<i>muṇḍa</i>	(Sk.) human skull as attribute of deities
<i>maithuna</i>	(Sk.) relief with intercourse or erotic scene

v

<i>yajñopavīta</i>	(Sk.) sacred thread as sign of twice-born caste
<i>yadaḥpati</i>	(Sk.) 'Lord of aquatic animals', Varuṇa

r

<i>raṅgamaṇḍapa</i>	(Sk.) front hall in temple
<i>ratna</i>	(Sk.) ornamental motif with diamond
<i>rathikā</i>	(Sk.) niche
<i>ramanaka</i>	(Sk.) landing at end of stairs, specially area of <i>maṇḍapa</i> in stepwell
<i>rājāsenakā</i>	(Sk.) horizontal slab beneath <i>vedikā</i>
<i>rucaka</i>	(Sk.) type of pillars which are square and plain
<i>rūpa-stambha</i>	(Sk.) pilaster with figures in miniature niches in doorframe

l

<i>Laṭina</i>	(Sk.) name of one-spired temple crowning of Nāgara or northern type
<i>lalitāsana</i>	(Sk.) sitting posture with one leg hanging down and one resting on stool, same as <i>ardhaparyāṅkara</i>
<i>lākh</i>	(Hindi/Guj.) one hundred thousand
<i>loka-pāla</i>	(Sk.) presiding deity of direction

v

<i>varaṇḍikā</i>	(Sk.) parapet wall at edge of stepped corridor at ground level
<i>varadā-mudrā</i>	(Sk.) boon-bestowing gesture in the form of open palm with fingers pointing down
<i>vastupuruṣa</i>	(Sk.) visually depicted identification of cosmic order with human body
<i>vastupuruṣa-maṇḍala</i>	(Sk.) square of <i>vastupuruṣa</i>
<i>vāpi, vāpī or vāpikā</i>	(Sk.) stepwell
<i>vāv or vāvḍī</i>	(Guj.)
<i>vāhana</i>	(Sk.) animal-vehicle of deity
<i>Vijayā</i>	(Sk.) class of stepwell with four entrances and 12 pavilion-towers
<i>vedikā</i>	(Sk.) balustrade over <i>rājāsenakā</i>
<i>vṛtta</i>	(Sk.) ornamental motif in form of medallion

ś

<i>śaktitīrtha</i>	(Sk.) place of pilgrimage sacred to female power
<i>śaṅkha</i>	(Sk.) conch as attribute of deities
<i>śikhara</i>	(Sk.) temple spire
<i>śilpa</i>	(Sk.) craft, arts
<i>śilpa-śāstra</i>	(Sk.) class of works on arts and architecture
<i>śīras</i>	(Sk.) capital of pillar over <i>bharaṇi</i>
<i>śukanāsa</i>	(Sk.) 'parrot's beak', ornamental part projecting from spire

s

<i>satī</i>	(Sk.) 'true-one', woman immolating herself on funeral pyre of her dead husband
<i>sattra</i>	(Sk.) alms-house
<i>Saptamātṛkā</i>	(Sk.) the seven mother-goddesses
<i>sabhā-maṇḍapa</i>	(Sk.) front hall of temple

<i>simha-śākhā</i>	(Sk.) course with lion-faces at doorframe
<i>sindhupati</i>	(Sk.) 'Lord of rivers', Varuṇa
<i>surasundarī</i>	(Sk.) heavenly beauty
<i>sūtradhāra</i>	(Sk.) 'holder of string', architect
<i>sopāna</i>	(Sk.) step
<i>sopāna-śreṇī</i>	(Sk.) row of steps, stepped corridor
<i>stambha</i>	(Sk.) shaft of pillar
<i>stambhikā</i>	(Sk.) ornamental motif with pilaster-design
<i>sthāpati</i>	(Sk.) 'builder', architect, supervisor of construction

h

<i>haṁsa</i>	(Sk.) goose as vehicle of deity
<i>homa</i>	(Sk.) oblation

Legends to Illustrations

1. Nāḍol, Rajasthan—Rūpa stepwell—c. end of 10th cent.
This stepwell belongs to the group of earlier ones located in Rajasthan. It has several pavilion-constructions at short distances from each other, therefore no additional frame-works are required. The pillars are of simple unornamented *rucaka* type.
Photo: Am. Inst. Indian Studies, Banaras.
2. Bundi, Rajasthan—Rānī stepwell—late mediaeval age.
The most intricate feature of this stepwell are the slim and elongated pillars with *torāṇa* in between which resemble the *īlika-valaṇa* of the Jaina temples on Mt Abu and of the *kīrtistambha* at Kapadvanj, Gujarat.
Photo: V. Dharamsey, Bombay.
3. Loteśvar—stepwell—mediaeval age.
This stepwell belongs to the rather rare group of *caumukhi* stepwells, with four entrances. Here the structure is even more interesting, as the four entrances and the well in the centre are separated from each other by a stone-walling in order to make four pools and the shaft of the well which are connected with each other in the underground.
Photo: H. Gaudani, Ahmedabad.
4. Miāni—Gaṇapati shrine—Surashtra style—6th/7th cent.
It is a one-celled temple with attached *mukhamanḍapa* and a Latina *śikhara*. The only sculptural ornamentation is the *dvāraśākhā* comprising two female figures with lotuses in their hands (maybe the river-goddesses Gaṅgā and Yamunā) and Gaṇeśa in the middle of the lintel set in a miniature niche.
5. Vaḍhvāṇ—Rānik Devī temple—Mahā-Gurjara style—c. 900.
The Rānik Devī temple is in the local tradition believed to be the funeral shrine of Siddharaja Jayasimha's consort, Rānik Devī, who became a *satī*. However, the architecture and ornamentation display earlier features, for example, the minute *jālaka* work on the *śikhara*, the plain walls (*jaṅgha*), the miniature *phāṃsanā*-crowning over the niches instead of an *udgama*, the *pañcaśākhā* doorframe comprising *patra*, *śiṃha*, *rūpa stambha*, *śiṃha* and *patra śākhā*.
6. Miāni—Nīlakaṇṭha Mahādeva temple—Māru-Gurjara style—1204.
Full view of the temple. It belongs to the later phase of the Māru-Gurjara tradition in the period of Bhimadeva II. It has figures without *parikarma* on the sidewalls; the *śikhara* is of Latina type with *uraḥśṛṅga*, the *gudhamanḍapa* is crowned by a *phāṃsanā* roofing which became popular again during this period.
7. Visāvaḍa—Mūla Dvārakā temple complex—Śiva temple—c. 13th cent.
The Śiva temple belongs to one of the two *pañcāyatana* shrines on a common platform. The entrance hall is crowned with a *phāṃsanā* roofing. The shrine is plain except for some figures on the entrance projection and on the brackets.
8. Miāni—Nīlakaṇṭha Mahādeva temple—Māru-Gurjara style—1204.
Detail of a pillar in *mukhamanḍapa* and *dvāraśākhā*. The pillar is of *mīśraka* type, having in consecutive order miniature shrines of deities, lotus petals, a course with fighters, with *ratna* motif, and with *grāsamukha*. This pillar type is found in Ra Khengar stepwell.

9. Ānandpur—Navalakha temple—Māru-Gurjara style—early 12th cent.
Detail of wall and *śikhara*. The *śikhara* has numerous *uraśṣṇa* and a prominent niche on the *śukanāsa*. The central niche on the wall is crowned by an *īlikavalaṇā*, whereas the others by *udgama*.
10. Ghumli—Navalakha temple—Māru-Gurjara style—early 13th cent.
This temple has an ambulatory with balconied windows. It stands on a high platform. Dwarf *ghaṭapallava* pillars support the two-storeyed *maṇḍapa* which is partly in a broken condition. The basement is profusely carved with sculptures.
Photo: Manibhai Vora, Porbandar.
11. Moḍherā—Sun temple—Māru-Gurjara style—third quarter of 11th cent.
Detail of *raṅgamaṇḍapa* showing the entrance pillar ornamented with various courses in successive order, *jaḍyakumbha*, *grāsamukha*, *gajathara*, *narathara* and *rājasenakā* with figurative decoration, broad *vedikā* with figures and *kakṣāsana* with erotic scenes, similar to those of the Āṅkol Mātā stepwell in Dāvad.
12. Moḍherā—Sun temple—Māru-Gurjara style—third quarter of 11th cent.
Detail of the *kakṣāsana* of the *nṛtyamaṇḍapa* with floral ornamentation and erotic scenes, similar to the *kakṣāsana* of the Āṅkol Mātā stepwell in Dāvad.
13. Mt Abu—Vimala Vasāhi—12th cent.
The remarkable features of the *nṛtyamaṇḍapa* of this temple which was added by Jaina ministers of King Kumārāpāla to the original temple of 1032 are the *īlikavalaṇā toraṇa* spanning over the passage, the profusely decorated pillars and the attached bracket figures in the form of heavenly beauties.
14. Dabhoi—Hira gate—c. 1255.
The Hira gate with the attached Kālikā Mātā and Vaidyanātha temples is one of the most exquisite structures of the late Vāghelā phase of the 13th century in northern Gujarat.
Photo: A.S.I. Western Circle, no. 78/898 (1939-40).
15. Junāgaḍh—Uparkot—Buddhist Caves—Pond—Kṣatrapa period—2nd to 4th cent.
In the first storey attached to the Buddhist Caves, this pond is hewn out of rock. It is surrounded by an ambulatory with pillars on three sides, the fourth is adjacent to a chamber. The water level is approached by two lateral staggered stairs.
16. Moḍherā—Sun temple with *raṅgamaṇḍapa* and Sūryakuṇḍa—third quarter of 11th century.
Access to the water level in the pond, Sūryakuṇḍa, which is lying lower than ground level is by the numerous lateral staggered stairs and a tapering staircase from the entrance of the *raṅgamaṇḍapa*.
17. Moḍherā—Sūryakuṇḍa.
One corner of Sūryakuṇḍa which shows the system of lateral staggered stairs and the inserted niches having *phāṁsanā* roofings with sculptures.
18. Moḍherā—Sūryakuṇḍa.
The huge pond is enclosed in a system of descending paths, embellished with numerous niches and platforms which bear small shrines.
19. Iḍar—Kuṇḍa—c. 10/11th century.
This small and ancient pond is situated near the Ghaṇṭi stepwell of Iḍar. It is a square pond with the well attached at one side. The access to this well is by the opening flanked by two pilasters. The water level in the pond is reached by lateral staggered stairs.
20. Kāpaḍvañj—Kuṇḍa—end of 12th cent.
Detail of a pavilion, the *phāṁsanā* roofing with sculptural pediment, showing probably Viṣṇu in the centre and attendants. The *phāṁsanā* roofing is covered with *kūṭakāra*, miniature domes.
21. Kāpaḍvañj—Kuṇḍa—end of 12 cent.
This pond is slightly less elaborate and smaller in size as compared to Sūryakuṇḍa in

- Modherā. It has the same system of lateral staggered stairs for the descending path and is dotted with small niches and pavilions.
22. Pāṭaṇ—Sahasraliṅga Tālāo—11th cent.
View from east. Detail showing the water-channel with remnants of intermediate pavilion-constructions. The capitals of the pillars have figural bracket figures. This huge tank which was excavated by Jayasimha Siddharāja was embellished with a thousand small shrines housing *liṅga*, as the name indicates.
 23. Pāṭaṇ—Sahasraliṅga Tālāo—11th cent.
Detail with the sluices, crowned by three small shrines, the bases of which only remain, and the water-channel with stepped sidewalls.
 24. Dābhoi—Saptamukhi stepwell—c. 1255.
This structure which is named a stepwell (*vāv*) is actually a temple situated at the bank of the Nāgeśvar tank, built during Visaldeva Vāghelā's reign.
Photo: A.S.I., Western Circle, no. 2196/1977.
 25. Junāgaḍh—Aḍi Kaḍi stepwell—c. 10th cent.
This stepwell is cut into the rock as a very narrow stepped corridor which reaches the well without supporting structures.
 26. Junāgaḍh—Uparkot—Nāvghān Kūo—c. 11th cent., original parts may be 2nd-4th cent.
This well is cut into natural rock, with additions of structural walls, supporting pillars and stairs. The original digging might be of an early Kṣatrapa date, whereas in its entire present form it might belong to the 11th century.
 27. Dhāṅk—Mañjuśrī stepwell—Surashtra style—c. early 7th cent.
View from east. The narrow stepped corridor leads down to the well. On both sides the walls are decorated with niches flanked with pilasters and crowned with a *caltya* dormer pediment.
Photo: Am. Inst. Indian Studies, Banaras.
 28. Jhinjhuvāḍa—stepwell—c. early 12th cent.
Detail of the entrance, with the first *maṇḍapa*, crowned with a *phāṁsanā* roofing. The front façade of the roofing is embellished with three niches, bearing sculptures in the usual style during the Siddharāja phase.
Photo: H. Gaudani, Ahmedabad.
 29. Jhinjhuvāḍa—stepwell—c. early 12th cent.
Detail of the second *kūṭa*. The sides overlooking the stepped corridor are bordered with the usual *rājasenakā*, *vedikā* and *kakṣāsana*.
Photo: H. Gaudani, Ahmedabad.
 30. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
View from north-east, showing the tapering structure of the stepped corridor, revealed by the parapet wall on ground level.
 31. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of *kūṭa* one, top *maṇḍapa*, entrance at the western side. The door is framed by a carved *dvāraśākhā*. The walls to the sides are perforated screens and dwarf *ghaṭapallava* pillars, supporting the domed roof.
 32. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
View from south, the second *kūṭa* in the first storey with the recent shrine at the eastern side which is approached by the concrete passage.
 33. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of the shrine at the eastern side in *kūṭa* two, which was built into the ancient niche, showing a sculpture of the goddess killing the buffalo-demon, Mahīṣāsura-mardīnī.
 34. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of the lateral staggered stairs in the entrance staircase.

35. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of the sidewall of the stepped corridor revealing various projecting moulding supported by carved corbels.
36. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of the southern façade, showing part of the *kakṣāsana*, the pillar and the capital with brackets of human figures holding the roofing of the pavilion.
37. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of northern façade, section 2, with a dancing goddess attended on by a dwarf.
38. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of northern façade, section 6, with 'teaching scene'.
39. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
General view of southern façade.
40. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of southern façade with sections 2, 3, 4, 7, 8, 9, 12, 13 and 14.
41. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of northern facade, section 4, with a goddess riding in *ardhaparyāṅkara* pose a buffalo, and section 9 with a dancing woman and musicians.
42. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of southern façade, section 15, with an orgiastic *maithuna* scene.
43. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of southern façade, *kakṣāsana* with *maithuna* of two monkeys and two attending female figures.
44. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of bathing-place near the well, with a sculpture of a *makara* topping the partition wall.
Photo: H. Gaudani, Ahmedabad, 1934.
45. Chāraḍa—stepwell.
Detail of bathing-place, partition-wall, eastern side, topped by a figure of a *makara* eating a man.
Photo: H. Gaudani, Ahmedabad.
46. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of bathing-place, partition-wall with sculptures of human figures and relief ornamentation and a *makara* on top.
Photo: H. Gaudani, Ahmedabad.
47. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.
Detail of bathing-place, partition-wall with sculptures of human figures in daily life.
Photo: H. Gaudani, Ahmedabad, 1934.
48. Bakhor—stepwell.
Detail of bathing-place, partition-wall with sculptures of *Saptamātṛkā*.
Photo: H. Gaudani, Ahmedabad, 1934.
49. Pāṭaṇ—Rāṇī stepwell—11th cent.
View from east, with the last two *kūṭa* and the well.
Photo: A.S.I., Western Circle, no. 108/1974.
50. Pāṭaṇ—Rāṇī stepwell—11th cent.
Detail of the stepped corridor and the well before excavation of the *maṇḍapa*.
Photo: A.S.I., Western Circle, no. 155/1972.
51. Pāṭaṇ—Rāṇī stepwell—11th cent.
Detail of the entrance staircase with parallel steps and lateral staggered stairs. The platform was probably covered with a *maṇḍapa*.

52. Pāṭaṇ—Rāṇī stepwell—11th cent.
Detail of well-wall in between the brackets. The upper horizontal row shows panels of dancers and musicians alternating with small niches with seated deities. In the lower row two goddesses are seated in niches, crowned with intricate pediments and flanked on each side by *surasundarī*, heavenly beauties and naked figures.
53. Pāṭaṇ—Rāṇī stepwell—11th cent.
Detail of a strut in the well with *stambhika* depicting a girl, scroll-pattern, miniature pilasters with *kīrtimukha*.
54. Pāṭaṇ—Rāṇī stepwell—11th cent.
Pair of struts in the well, profusely carved in horizontal panels, with female figures, fighting scenes, horse-riders, scroll-patterns and *kīrtimukha*.
Photo: A.S.I., Western Circle, no. 218/1972.
55. Pāṭaṇ—Rāṇī stepwell—11th cent.
Well, back wall with horizontal panels showing probably Lakulīṣa in centre and other gods and goddesses, Apsara, Gaṇa, Gandharva and erotic scenes.
Photo: A.S.I., Western Circle, no. 268/1972.
56. Pāṭaṇ—Rāṇī stepwell—11th cent.
Well, back wall with godly couples in niches.
Photo: A.S.I., Western Circle, no. 216/1972.
57. Pāṭaṇ—Rāṇī stepwell—11th cent.
Entrance platform, sculpture of a couple in a niche. A *gandharva*, heavenly musician, with a flute is sitting in a scroll above the female figure.
58. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail of a niche with a sculpture of a *surasundarī* putting *kājal* in her eyes and holding a mirror.
Photo: A.S.I., Western Circle, no. 565/1973.
59. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail of *Śeṣaśāyīn* panel, flanked with figures of Bhairavī with a *ḍamaru*, a cup of blood, a stick ending in a skull, and of a *surasundarī* putting *kājal* in her eyes and holding a mirror, both sculptures set into side-niches.
Photo: A.S.I., Western Circle, no. 202/1972.
60. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail of a niche with Śiva with *triśūla* and a snake in a *parikarma* of miniature niches and a halo with Gaṇa, and two *Surasundarī* on either side in different poses.
Photo: A.S.I., Western Circle, no. 198/1972.
61. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail of a Viṣṇu sculpture with *śaṅkha* and *cakra*, in a *parikarma* with miniature niches showing *Dasāvatāra*, and two *Surasundarī* holding a fly-whisk and pressing water out of the hair which is caught by a *haṁsa*.
Photo: A.S.I., Western Circle, no. 201/1972.
62. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail with sculpture of Śiva with 4 hands holding a *triśūla*, a snake, *akṣamālā* and *kamaṇḍalu*.
Photo: A.S.I., Western Circle, no. 182/1972.
63. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail with sculpture of Viṣṇu Viṣvarūpa, Viṣṇu in his universal form, with 16 hands. Two *āyudhapuruṣa*, personified weapons, are placed in the lower corners, on the right *cakra*, the disc, and on the left *gadā*, the club.
Photo: A.S.I., Western Circle, no. 190/1972.

64. Pāṭaṇ—Rāṇī stepwell—11th cent.
Sidewall, detail with sculpture of Brahma with three heads and beard with *śruva*, a book, *kamaṇḍalu*, *akṣamālā*, and probably his consort Brahmī with *śruva*, *gadā*, *kamaṇḍalu* and *akṣamālā*.
Photo: A.S.I., Western Circle, no. 189/1972.
65. Ahmedābād—Mātā Bhavānī stepwell—11th cent.
Pond and *kūṭa* 3 with three storeys and the top *maṇḍapa*. The shrine is built in the second storey.
66. Ahmedābād—Mātā Bhavānī stepwell—11th cent.
The three top *maṇḍapa* over *kūṭa* one, two and three, showing the lateral stairs to the *maṇḍapa* and the course of the parapet wall.
67. Ahmedābād—Mātā Bhavānī stepwell—11th cent.
Entrance staircase with parallel steps and lateral staggered stairs.
68. Kāpaḍvañj—Bātrīs Kotha stepwell—probably 11th cent.
Detail of the *maṇḍapa* with three rows of pillars and projecting eaves.
69. Kāpaḍvañj—Bātrīs Kotha stepwell—probably 11th cent.
Detail of the last *kūṭa* adjacent to the well with *rājasenakā*, *vedikā* and *kakṣāsana* decorated with geometrical and floral patterns and pillars with figural brackets.
70. Kāpaḍvañj—Bātrīs Kotha stepwell—probably 11th cent.
Detail of stepped corridor with lateral staggered stairs and pilasters.
71. Kāpaḍvañj—Bātrīs Kotha stepwell—probably 11th cent.
Detail of *kakṣāsana* with scroll patterns and medallions.
72. Ahmedābād—Dādā Harīr stepwell—1499.
General view from the west, with the passage to Dādā Harīr's mosque.
Photo: A.S.I., Western Circle, Poona, neg. no. 7556.
73. Ahmedābād—Dādā Harīr stepwell—1499.
View from east, on ground level, showing the top platforms of the *kūṭa*, the course of the parapet wall, the two canopies over the spiral staircases and the railing around the octagonal shaft.
74. Ahmedābād—Dādā Harīr stepwell—1499.
View from the first storey down the four additional storeys in the octagonal shaft, the bottom of which is a square pool.
75. Ahmedābād—Dādā Harīr stepwell—1499.
View from east, through the *maṇḍapa* with the sidewall and ledges which are resting on corbels carved as bell-shaped pendants.
76. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of *kūṭa* five, first storey, northern side, the arched entrance door from the spiral staircase to the octagonal shaft with its railing in the front.
77. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of the last *kūṭa* in the fourth and fifth storeys having a square opening in the floor in between the pillars which is encased in a 80 cm high ornamented parapet wall.
78. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of the small canopy over the spiral staircase.
79. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of the wall of the well with string courses with floral squares and depiction of elephant plucking out flowers with its trunk.
80. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of the well, the niche at the back wall with intricate scroll relief.

81. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of the pediment over a niche with miniature pilasters, *ilika*-like framework, the hanging-pot-on-chain motif in scrolls and rosettes on both sides.
82. Ahmedābād—Dādā Harīr stepwell—1499.
Detail of the stepped corridor, sidewall, the string courses with rows of floral half-medallions and a narrow one with a scroll pattern.
83. Limbhoi—stepwell—1630.
Detail of the entrance pavilion with a huge dome over the central square and smaller ones over the entrance projections.
84. Limbhoi—stepwell—1630.
Detail of the stepped corridor with the top pavilion of *kūṭa* four and revealing that the stepped corridor is tapering in three steps in the first one metre below ground.
85. Limbhoi—stepwell—1630.
View from west, the stepped corridor, showing the second intermediate framework and *kūṭa* two, three and four.
86. Limbhoi—stepwell—1630.
Detail of *kūṭa* one, first storey, southern side, the niche.
87. Limbhoi—stepwell—1630.
Detail of the entrance pavilion, inside view, showing the low parapet wall and the covering stone-bench and the location of the pillars.
88. Limbhoi—stepwell—1630.
Southern wall of the stepped corridor, the inscription.
89. Limbhoi—stepwell—1630.
Detail of *kūṭa* one, southern side, Śiva with Pārvatī on Nandi.
90. Limbhoi—stepwell—1630.
Detail of *kūṭa* one, northern side, Viṣṇu with Lakṣmī on Garuḍa.
91. Sāṭhambā—stepwell—c. 12th cent.
Detail of stepped corridor, first storey, view from south with the *maṇḍapa* with four pilasters each.
92. Sāṭhambā—stepwell—c. 12th cent.
Detail of the well, lower portion, reliefs depicting goddess Lakṣmī, fighting elephants, fighting horses and a horse-rider.
93. Sāṭhambā—stepwell—c. 12th cent.
Detail of the well, relief with three girls in action, while shooting, for example.
94. Sāṭhambā—stepwell—c. 12th cent.
Detail of the entrance staircase, eastern wall, the niche with sculptures of Gaṇeśa and Bhairava.
95. Sāṭhambā—stepwell—c. 12th cent.
Detail of the well, lower portion, reliefs depicting dancing girls, fighting elephants and horse-riders.
96. Sāṭhambā—stepwell—c. 12th cent.
Detail of the well, relief with three female musicians.
97. Sāṭhambā—stepwell—c. 12th cent.
Detail of the well, relief with fighting elephants.
98. Sāṭhambā—stepwell—c. 12th cent.
Detail of the well, relief with three female musicians and dancers.
99. Dhrāṅgadhrā—Nāgā Bāvā stepwell—c. 1525.
The stepped corridor from north, sequence of the *kūṭa* and intermediate frameworks.
100. Dhrāṅgadhrā—Nāgā Bāvā stepwell—c. 1525.
Kūṭa one, eastern side, a niche with a sculpture of Gaṇeśa.

101. Dhrāṅgadhṛā—Nāgā Bāvā stepwell—c. 1525.
Kūṭa one, western side, a niche with a sculpture of Mahīṣāsura-mardīṇī.
102. Dhrāṅgadhṛā—Nāgā Bāvā stepwell—c. 1525.
Kūṭa one, the pilaster on the northern side adjacent to the entrance staircase, having a decorated base.
103. Dhrāṅgadhṛā—Nāgā Bāvā stepwell—c. 1525.
The stepped corridor, intermediate framework, detail of the double-pilasters with a common base.
104. Dhrāṅgadhṛā—Nāgā Bāvā stepwell—c. 1525.
Detail of the stepped corridor, entrance staircase, western side, *dvārapāla* in royal garments.
105. Īḍar—Ghaṇṭī stepwell—c. 16/17th cent.
Detail of the stepped corridor, the upper platform of *kūṭa* two without the covering stone slabs. The contraction of the stepped corridor at the *maṇḍapa* is shown.
106. Īḍar—Ghaṇṭī stepwell—c. 16/17th cent.
Detail of *kūṭa* one, first storey, a niche with pilasters, ornamented with bell-and-chain motif, *chaḍya* and *udgama*.
107. Īḍar—Ghaṇṭī stepwell—c. 16/17th cent.
The stepped corridor, intermediate framework, detail of the ledges, pilasters and brackets.
108. Īḍar—Ghaṇṭī stepwell—c. 16/17th cent.
View of the first storey through *kūṭas* and intermediate frameworks from west.
109. Hampur—stepwell—c. 16/17th cent.
General view from north.
110. Hampur—stepwell—c. 16/17th cent.
Detail of the entrance pavilion, the corbelling system of the ceiling, view from inside.
111. Hampur—stepwell—c. 16/17th cent.
Detail of the water-channelling system with elephant-gargoyle and troughs underneath.
112. Hampur—stepwell—c. 16/17th cent.
The entrance pavilion.
113. Hampur—stepwell—c. 16/17th cent.
Detail of *kūṭa* one, a niche with *pūrṇaghaṭa* motif, resembling the floral motifs in Dādā Harīr stepwell of Ahmedābād.
114. Kaṅkāvatī—Mātrī stepwell—c. 17th cent.
View from east, showing the interlinked paths and its location within the lake.
115. Sevasī—stepwell—1485.
The stepped corridor with the top *maṇḍapa* on *kūṭa* five at the western end.
116. Sevasī—stepwell—1485.
The stepped corridor with *kūṭa* one and the sequence of intermediate frameworks and *maṇḍapa*.
117. Sevasī—stepwell—1485.
Kūṭa two, second storey, detail of the entablature with figures of *haṁsa*.
118. Sevasī—stepwell—1485.
Detail of the stepped corridor, the intermediate framework, an ornate pillar.
119. Sevasī—stepwell—1485.
Kūṭa two, second storey, detail of the entablature showing a relief of a deified hero with a horse.
120. Sevasī—stepwell—1485.
Kūṭa one, the eastern front, the lintel with floral patterns and part of the inscription.
121. Ghumli—Vikiā stepwell—beginning of 12th cent.
General view from west with *kūṭa* one, two and the entrance pavilion.

122. Ghumli—Vikiā stepwell—beginning of 12th cent.
Detail of the entrance pavilion, pediment on *phāṃsanā* roofing with niches of various deities, on the extreme left is *Varāhāvatāra*, the boar incarnation of Viṣṇu.
123. Ghumli—Vikiā stepwell—beginning of 12th cent.
Entrance pavilion, eastern front.
124. Ghumli—Vikiā stepwell—beginning of 12th cent.
Detail of the entrance pavilion, the corbelling system of the ceiling.
125. Ghumli—Vikiā stepwell—beginning of 12th cent.
Detail of the entrance pavilion, northern façade, the *ghaṭapallava* pillars and the pediment.
126. Ghumli—Vikiā stepwell—beginning of 12th cent.
The stepped corridor from east, *kūṭa* two with 2nd to 4th storeys.
127. Ghumli—Vikiā stepwell—beginning of 12th cent.
Kūṭa two, part of the *maṇḍapa* with pillar, pilaster and staircase.
128. Ghumli—Vikiā stepwell—beginning of 12th cent.
Kūṭa one with *maṇḍapa* above ground. Because the *kakṣāsana* over the stone-bench is broken, the method of construction of *vedikā*, *āsanapaṭṭa* and *ghaṭapallava* pillar is seen. The short pillar is carved out of one piece of stone with the slanting base in order to fit the slanting backrest of *kakṣāsana*. This same method is generally employed at stepwells in Gujarat.
129. Ghumli—Vikiā stepwell—beginning of 12th cent.
Kūṭa three, first storey, detail of the upper part of the pillar with a row of *grāsamukha* and figural brackets.
130. Ghumli—Vikiā stepwell—beginning of 12th cent.
Detail of a bracket figure with a lion eating an animal.
131. Ghumli—Vikiā stepwell—beginning of 12th cent.
Detail of a bracket figure with a lion-faced figure.
132. Vāḍhvāṇ—Mādhā stepwell—1294.
View from east showing the line of pyramidal roofings over *kūṭa* one to five.
133. Vāḍhvāṇ—Mādhā stepwell—1294.
Kūṭa four, detail of the pair of figures interpreted as the donor figures.
134. Vāḍhvāṇ—Mādhā stepwell—1294.
Kūṭa one with the screen, northern part and niche.
135. Vāḍhvāṇ—Mādhā stepwell—1294.
View along the stepped corridor with *kūṭa* two, three, four and five.
136. Vāḍhvāṇ—Mādhā stepwell—1294.
Detail of the screen, southern part, with squares depicting *nandyāvarta*, the elaborated cross-design, floral motifs etc., having human figures set into them.
137. Vāḍhvāṇ—Mādhā stepwell—1294.
Detail of the well, one of the ornamented struts with an erotic scene, riders on mythical animals and floral motifs.
138. Vāḍhvāṇ—Mādhā stepwell—1294.
Detail of the well, three of the four ornamented struts that carry the platform on which the arrangement for hauling up water existed.
139. Khedbrahmā—stepwell—c. 14th cent.
Detail of the well, sculptural decoration of a row of shrines, the central one larger than the rest.
140. Khedbrahmā—stepwell—c. 14th cent.
The stepped corridor, the tapering structure making pathways on top of each storey.
141. Virpur—Mīnal stepwell—probably 13th cent.
General view of the stepwell.

142. Vīrpur—Mīnal stepwell—probably 13th cent.
A niche in front of a *maṇḍapa*, detail of the *īlika* pediment.
143. Vīrpur—Mīnal stepwell—probably 13th cent.
A niche in front of a *maṇḍapa* with five deities.
144. Ahmedābād—Āsāpurī stepwell—early 16th cent.
The square shaft with the surrounding passages in various storeys.
145. Ahmedābād—Āsāpurī stepwell—early 16th cent.
Detail of *kūṭa* five, doorway leading from the spiral staircase to the square shaft, with an arched entrance and surrounded by carvings.
146. Ahmedābād—Āsāpurī stepwell—early 16th cent.
Detail of the pool at the bottom of the square shaft.
147. Ahmedābād—Āsāpurī stepwell—early 16th cent.
A niche with flower motif with a pot-on-chain motif, and an intricate pediment.
148. Ahmedābād—Āsāpurī stepwell—early 16th cent.
Detail of the well, the cross-bar supported by highly ornate brackets and carving on the well-wall.
149. Rāmpura—Rātalā stepwell—c. 15th cent.
General view from north-east, showing the entrance platform and *kūṭa* five with the pyramidal roofing.
Photo: Am. Inst. Ind. Studies, no. 215.77.
150. Rāmpura—Rātalā stepwell—c. 15th cent.
View from south-east into the flight of *maṇḍapa*. The narrowing of the stepped corridor at the *maṇḍapa* is revealed.
151. Rāmpura Rātalā stepwell—c. 15th cent.
Detail of a niche with an elaborate pediment with *īlika*-like pattern, set in scrolls and a motif with pot-hanging-on-chain.
Photo: H. Gaudani, Ahmedabad.
152. Rāmpura—Rātalā stepwell—c. 15th cent.
Sculpture of Śeṣaśāyīn Viṣṇu, crowned by a row of Navagraha.
Photo: H. Gaudani, Ahmedabad.
153. Vāḍhvāṇ—Gaṅgā stepwell—12th cent.
Kūṭa one with tapering pyramidal crowning.
154. Vāḍhvāṇ—Gaṅgā stepwell—12th cent.
Kūṭa one, the niche with *īlika* pediment.
155. Dhandhalpur—stepwell—c. 14th cent.
View from east with well and *kūṭa* four.
156. Dhandhalpur—stepwell—c. 14th cent.
View from west through the *kūṭa*, showing the top pavilion, first and second storeys.
157. Dhandhalpur—stepwell—c. 14th cent.
Detail of a pillar, the bracket is in the form of a human figure.
158. Dhandhalpur—stepwell—c. 14th cent.
Detail of the pavilion in the first storey, the interior ceiling as a flat stone carved as lotus flowers.
159. Isānpur—stepwell—c. 19th cent.
The entrance pavilion.
160. Isānpur—stepwell—c. 19th cent.
View through the various *kūṭa* in the first storey.
161. Isānpur—stepwell—c. 19th cent.
Kūṭa one, first storey, detail of the upper, *ghaṭapallava* portion of the pillar.

162. Isānpur—stepwell—c. 19th cent.
Kūṭa four, second storey, the plain *miśraka* type of pillar.
163. Isānpur—stepwell—c. 19th cent.
Detail of the entrance pavilion, the interior, the ceiling with corbelling system and a central stone carving in form of a rosette.
164. Isānpur—stepwell—c. 19th cent.
A niche with a sculpture of Gaṇeśa.
165. Isānpur—stepwell—c. 19th cent.
The pediment of a niche with a seated figure of Viṣṇu and two attending females, and erotic scene on the side.
166. Isānpur—stepwell—c. 19th cent.
A niche with a sculpture of Bhairava.
167. Moḍherā—stepwell—c. 11th cent.
General view from south with the *maṇḍapa* on top of *kūṭa* two.
168. Kāleśvarī nī Naḷ—Sāsu and Vāhu stepwell—c. 10/11th cent.
Vāhu stepwell in the foreground, Sāsu stepwell in the background.
169. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Kūṭa two, second storey, northern side, the sculpture of Śeṣaśāyin Viṣṇu.
170. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Kūṭa one, first storey, southern side, full view of Dasāvatāra panel.
171. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Detail of Fig. 170, with Matsya, Kūrma, Varāha, Narasimha and Vāmana.
172. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Detail of Fig. 170, with Paraśurāma, Ramacandra, Balarāma, Buddha and Kalki.
173. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Detail of Fig. 170, with Vāmana.
174. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Kūṭa two, second storey, northern side, panel of *Aṣṭamūṛkā*, detail with Vaiṣṇavī, Kauberī and Varāhī.
175. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Same as Fig. 174, detail with Cāmuṇḍā and Vīrabhadra.
176. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Same as Fig. 174, the niche with panel of *Aṣṭamūṛkā*.
177. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Entrance staircase, northern wall, a niche with sculptures of an emaciated woman giving birth to a child and Goddess Śītalā.
178. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Kūṭa one, first storey, northern side, a niche with a panel of *Navagraha*.
179. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Detail of Fig. 178, with Maṅgala, Mars, Budha, Mercury, Bṛhaspati, Jupiter, Śukra, Venus.
180. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10/11th cent.
Detail of Fig. 178, with Śani, Saturn, Rāhu and Ketu, the ascending and descending nodes of the moon.
181. Adāḷaj—Rudabai stepwell—1499.
View through stepped corridor from south with first intermediate framework in foreground.
182. Adāḷaj—Rudabai stepwell—1499.
View from north, first intermediate framework and *kūṭa* one.
Photo: A.S.I., Western Circle, no. 491/1974.
183. Adāḷaj—Rudabai stepwell—1499.

- View from west with octagonal opening over entrance platform, with eastern entrance staircase flanked by *pratoḷi*, entrance towers.
184. Adāḷaj—Rudabai stepwell—1499.
Detail of square entrance platform with railing of octagonal shaft and square cells with carved doors and balconies.
 185. Adāḷaj—Rudabai stepwell—1499.
Southern entrance with entrance platform and octagonal opening over it.
 186. Adāḷaj—Rudabai stepwell—1499.
Octagonal shaft at *kūṭa* four leading towards well. The fourth and fifth storeys are built of brick with arched doorways.
 187. Adāḷaj—Rudabai stepwell—1499.
Detail of the octagonal shaft, first and second storeys.
 188. Adāḷaj—Rudabai stepwell—1499.
Detail of the entrance platform, balcony of square cell in eastern corner carved with leaf-and-scroll patterns and a course with lively elephants, horses and men.
 189. Adāḷaj—Rudabai stepwell—1499.
Detail of the octagonal shaft, railing with *rājasenakā*, *vedikā* and *kakṣāsana* with figures of elephants.
 190. Adāḷaj—Rudabai stepwell—1499.
Detail of the well, back wall with niche, ornamented string-courses, squinch-arch and struts.
 191. Adāḷaj—Rudabai stepwell—1499.
Detail of *kūṭa* two, entablature over middle pathway with sculptural panel.
 192. Adāḷaj—Rudabai stepwell—1499.
Detail of first intermediate framework, carved bracket and entablature.
 193. Adāḷaj—Rudabai stepwell—1499.
Detail of octagonal shaft, second storey, eastern side, panel of Navagraha over entrance to spiral staircase.
 194. Adāḷaj—Rudabai stepwell—1499.
Niche with symbolic representation of goddess Durgā by her lion-vehicle.
 195. Adāḷaj—Rudabai stepwell—1499.
Niche with *pūrṇaghaṭa* motif.
 196. Adāḷaj—Rudabai stepwell—1499.
Niche with symbolic representation of goddess Durgā by her lion-vehicle surmounted by a *triśūla* with inserted eyes.
 197. Adāḷaj—Rudabai stepwell—1499.
Southern niche in *kūṭa* two, second storey on the eastern side, with a stone carving representing symbolically the concept of Navadurgā, the nine aspects of goddess Durgā, in the form of earthen pots in which lamps are to be placed.
 198. Adāḷaj—Rudabai stepwell—1499.
Detail of well, view from top, depicting niche and string-course.
 199. Adāḷaj—Rudabai stepwell—1499.
Detail of string-course with fighting elephants with decorated bodies.
 200. Adāḷaj—Rudabai stepwell—1499.
Detail of string-course with elephant pulling out tree with its trunk.
 201. Adāḷaj—Rudabai stepwell—1499.
Detail of pillar of entrance platform depicting flower with pot-hanging-from-chain motif.
 202. Maṇḍaropur—stepwell—c. early 16th cent.
Octagonal opening over entrance platform and *pratoḷi* in the background.
Photo: H. Gaudani, Ahmedabad.

203. Visāvaḍa—Jñān stepwell—c. 13th cent.
View from south depicting turn of stepped corridor to the east and top *maṇḍapa* of *kūṭa* one.
204. Visāvaḍa—Jñān stepwell—c. 13th cent.
Entrance pavilion, southern side.
205. Visāvaḍa—Jñān stepwell—c. 13th cent.
Well at eastern end with *kūṭa* three.
206. Visāvaḍa—Jñān stepwell—c. 13th cent.
Troughs at northern side of well.
207. Visāvaḍa—Jñān stepwell—c. 13th cent.
Detail of stepped corridor, *kūṭa* two, with first storey and *kūṭa* three, with first and second storeys.
208. Visāvaḍa—Jñān stepwell—c. 13th cent.
Detail of *kūṭa* three, second storey, in arched form, and well.
209. Visāvaḍa—Jñān stepwell—c. 13th cent.
Kūṭa one, niche with sculpture of Sūrya.
210. Visāvaḍa—Jñān stepwell—c. 13th cent.
Kūṭa two, niche with sculpture of Viṣṇu.
211. Baroda—Navalakhi stepwell—1405.
Entrance staircase with *kūṭa* one.
212. Baroda—Navalakhi stepwell—1405.
Kūṭa one, detail of ceiling with huge flower-rosette.
213. Baroda—Navalakhi stepwell—1405.
First intermediate framework with two cross-beams and dwarf *ghaṭapallava* pillar in between.
214. Chātrāl—stepwell—c. 16th cent.
Detail of niche with scroll work and miniature sculpture of Gaṇeśa.
215. Chātrāl—stepwell—c. 16th cent.
Detail of niche with scroll work and miniature sculpture of Lakṣmī.
216. Chātrāl—stepwell—c. 16th cent.
View through *kūṭa* three to five.
217. Chātrāl—stepwell—c. 16th cent.
Niche with scroll work topped by two parrots.
218. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of well with circumambulatory passage.
219. Vanthali—Rā Khengar stepwell—c. 1235.
Kūṭa two, first and second storeys.
220. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of circumambulatory passage around well.
221. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of *kūṭa* two, second and third storeys.
222. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of *kūṭa* two, third storey. The first pillar is ornately carved at base, shaft and capital which has human figures as capitals.
223. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of *kūṭa* two, second storey, depicting the junction to well and steps leading down to water in well.
224. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of stepped corridor, balcony.

225. Vanthali—Rā Khengar stepwell—c. 1235.
Kūṭa two, second storey, detail of figural brackets of pillars and entablature.
226. Vanthali—Rā Khengar stepwell—c. 1235.
General view of strut.
227. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of strut with rider on mythical animal.
228. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of strut with rider on mythical animal.
229. Vanthali—Rā Khengar stepwell—c. 1235.
Kūṭa two, third storey, detail of pillar with horizontal bands of lotus petals, *narathara* and *grāsamukha*.
230. Vanthali—Rā Khengar stepwell—c. 1235.
Kūṭa two, third storey, detail of pillar with sculptures of *Saptamātrkā* and Bhairava.
231. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of pillar in *kūṭa* two, third storey. The shaft of the pillar is carved with horizontal bands with (from bottom) row of goddesses in niches, lotus petals, *narathara* and *grāsamukha*, and volute-brackets with *grāsamukha* in the corners.
232. Vanthali—Rā Khengar stepwell—c. 1235.
Detail of Fig. 231, showing the horizontal row of goddesses on the pillar-shaft.
233. Vanthali—Rā Khengar stepwell—c. 1235.
Kūṭa two, third storey, detail of pillar with sculptures on each side, sculpture of Hayagrīva.
234. Wankaner—stepwell—c. 1935-40.
Shaft of stepwell with staircase leading down in circumambulatory passage and sculpture of Śiva at eastern wall.
235. Wankaner—stepwell—c. 1935-40.
Detail of arched circumambulatory passage.
236. Mehmodābād—Bhramaria stepwell—c. early 16th cent.
Detail of well with arches spanning over it and windows of circumambulatory passage.
Photo: A.S.I., Western Circle, Poona, neg. no. 3922.
237. Chobari—Caumukhi stepwell—c. 12th cent.
General view depicting the four arms of stepped corridors, middle square portion and remnants of pavilion at southern side.
238. Chobari—Caumukhi stepwell—c. 12th cent.
Detail of niche at stepped corridor, maybe depicting Mahīśāsura-mardīnī.
239. Chobari—Caumukhi stepwell—c. 12th cent.
Detail of niche at stepped corridor with sculpture of *Saptamātrkā*.
240. Pāvagaḍh—Helical stepwell.
General view into well-shaft with *carika-rohana*, the circular staircase along the well wall.
241. Pāṭaṇ—Sindhvāi Mātā stepwell—1633.
General view, the entrance with lateral entrance towers and the dome over the first *maṇḍapa*.
242. Pāṭaṇ—Bahādur Singh stepwell—c. 17/18th cent.
General view.
243. Morbi—Jīva Mehta stepwell—c. 16/17th cent.
Sculpture of Mahīśāsura-mardīnī.
244. Mādhavpur, Kutch—stepwell—c. 1880.
General view, with entrance pavilion.
- I. Ghumli—Vikir stepwell—beginning of 12th cent.
II. Patan—Bahadur Singh stepwell—c. 18/19th cent.
III. Adalaj—Rudabai stepwell—A.D. 1499.
245. Mt. Śatruṅjaya, -c. 17th cent.
Replica of miniature stepwell.
Eight such replicas are placed flanking each of the four entrance gates to a *caumukha* temple symbolising the *samava-saraṇa*.

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Footnotes

INTRODUCTION

1. R.K. Trivedi, *Census Atlas, part IX, Gujarat, Census of India, 1961*, p. 243.
2. Ibid.
3. H.D. Sankalia, *The Archaeology of Gujarat*, p. 5.
4. John W. Watson, *Gazetteer of the Bombay Presidency*, vol. VIII: Kathiawar, pp. 122-123.
5. *Census Atlas*, op. cit., maps 4 and 5, pp. 247-248.
6. *Climatic Evaluation of Gujarat*, p. 13 and *Census Atlas*, op. cit., maps 11A and 11B and p. 255.
7. *Census Atlas*, op. cit., map 7 and p. 251.
8. Ali Muhammad Khan, *Mirat-i-Ahmadi*, p. 12.
9. James Burgess, *The Muhammadan Architecture of Ahmedabad*, p. 5.
10. It is called Duda stepwell and is situated near an ancient temple, the domed pavilion of which is still standing in the fields. cp. Burgess, *Antiquities of Kathiawad and Kutch*, pp. 205-206.
11. Information given by M.A. Dhaky, Varanasi.
12. M.A. Dhaky, "Karpāṇa deśana vapi-kunda", in: *Svadyaya*, pp. 319-323.
13. Ravi Dayal, "The India that you do not know: Delhi", in: *Illustrated Weekly of India*, Dec. 7-13, 1975, pp. 33-35.
14. R. Nath, "Account of a typical Mughal stepwell . . ." in: *Vishveshvaranand Indol. Journal*, vol. IX, 1971, p. 133.
15. E.W. Smith, *The Mughul architecture of Fatehpur-Sikri*.
16. J.M. Nanavati and M.A. Dhaky, *The Maitraka and the Saindhava Temples*, p. 40.
17. H.D. Sankalia, op. cit., p. 59.
18. Nanavati and Dhaky, op. cit., pp. 13-14 and 15-17.
19. A. Ghosh, *Seminar on Indian Art History, 1962* (Delhi, n.d.), p. 12, quoted from Dhaky, "The Genesis and Development . . ." in: *Studies in Indian Temple Architecture*, ed. Pramod Chandra, pp. 115-116.
20. Dhaky, "The Genesis . . ." op. cit., pp. 114-135 and 156-165, for this and following paragraphs.

CHAPTER I

1. The term *stepwell* seems to appear for the first time in the monographs of the Archaeological Survey. Whereas Burgess in *Antiquities of Kathiawad of 1874-75* . . . still confines himself to the use of the local term *wav*, Burgess and Cousens in their *Architectural Antiquities of Northern Gujarat, 1902*, introduce the term *stepwell* while describing *Rani Wav*. Earlier writers like Watson in *Gazetteer of Bombay Presidency* (1884) and Tod in *Travels in Western India* (1839) use the local term *vav* or *bavdi* resp. *baori* and describe the monuments as 'village wells' resp. 'reservoirs and abodes in the hot season'.
2. P. Brown, *Indian Architecture*, vol. I, Buddhist and Hindu Periods, p. 123.
3. K. Fischer, *Schöpfungen Indischer Kunst* . . . , p. 216.
4. Tod, op. cit., and MacMurdo in his *Journal of a Route through the Peninsula of Guzarat*, used the terms *bauri*, resp. *Bowrie*.
5. In Rajasthan the term *bauri* is in use.
6. M.R. Majumdar, . . . *Chronology of Gujarat*, p. 30.
7. Cp. Watson's observation in *Gazetteer* . . . (1884), p. 68: "During the months of April and May, many of these ponds become dry, and supplies have to be drawn from wells . . ."
8. *Viśvakarma Vastuśāstram*, ed. K.V. Sastri, chap. 33, v. 1.
9. R.P. Masani, *Folklore of Wells* . . . , pp. 6-8.
10. Tod, op. cit. (1839), p. 133.
11. M.S. Commissariat, *A History of Gujarat*, vol. I, pp. 123-124.
12. A. Basham, *The Wonder that was India*, p. 226.

13. Suresh Ghosh, "Fresh light on . . .", in: *J. Am. Or. Soc.*, vol. 94, no. 4, 1976, p. 572.
14. Ibid.
15. Tod, op. cit. (1839), p. 133.
16. H.R. Majumdar, *Cultural History of Gujarat*, p. 23.
17. Ibid.
18. Entry in Pattavali of Anchalagaccha, in: *Jaina tirtha sarvasamgraha*, ed. Seth Anandji Kalyanji (Ahmedabad, 1953), vol. I, under *Bhorai* saying that Shreshthi Munja Shah built a Jaina temple having 144 pillars and 72 *devakulikas* in V.S. 1302 and made the installation ceremony, there itself a stepwell was built along with it.
19. Cp. J. Kirste, "Inscriptions from northern Gujarat, no. XV, Roho stepwell inscription", in: *Ep. Ind.*, vol. II (Calcutta 1894), repr. 1970, pp. 24-32 and also a reference in Virji, *Ancient History of Saurashtra . . .*, p. 167, saying that a Śiva temple was built along with a stepwell in the town of Valabhi.
20. Cp. also Fischer, op. cit. (1956), p. 216: "Die einzelnen Gebäudeteile sind mit Pilastern und mit Nischen voller Götterbilder wie kleine Tempelchen verziert".
21. S. Kramrisch, *The Hindu Temple*, vol. I, p. 5 quoting *Visnudharmottara* III, chap. XLIII, 25-31.
22. Ibid., quoting *Tantrasamuccaya*, I.1.28.
23. Ibid., p. 6 quoting *Vaikhāṇasa-gāṇā*, chap. XXXI.
24. A. Forbes, *Ras Mala*, p. 546.
25. Rgveda, V, 53, 7, where rivers, crossing the atmosphere, are compared to cows as well as mares; cp. also Rgveda I, 32.2; 61.10; 130.5.
26. Ibid., VII.23.4.
27. Ibid., I.155.4.
28. According to the *Paraskara-grhya-sutra*, quoted in Kane, *History of Dharmasastra*, vol. II, part II, p. 891.
29. Rgveda V.32.2 and VI.57.8.
30. Ibid., VIII, 103.
31. Ibid., I.23.22 and X.9.8.
32. Keith, *Religion and Philosophy of the Veda . . .*, p. 141.
33. Cp. Masani, op. cit., p. 66 and also p. 86.
34. Enthoven, *Folklore Notes*, vol. I, Gujarat, p. 42.
35. Kane, op. cit., II, II, p. 889 and Forbes, op. cit., p. 198.
36. Kane, ibid., quoting *Visnudharmottara Purana*, chap. 91, 1-2.
37. Kane, ibid., p. 890, quoting Bana, *Kadambari* (v. 44).
38. Watson, op. cit. (1884), under Dhandhusar, p. 415.
39. The full text is given in Appendix 1.
40. Enthoven, *Folklore Notes*, op. cit., p. 41.
41. Ibid., p. 147.
42. Ibid., p. 86.
43. *Aparajitaprecha*, chap. 145, vv. 25-29.
44. R.K. Trivedi, *Fairs and Festivals*, Census of India, 1961, vol. V, Gujarat, part VII B (Delhi, 1965), p. 275.
45. Watson, op. cit. (1884), p. 525 and also Masani, op. cit., p. 67.
46. Information in a letter to the author from Shri Manibhai P. Vora, Porbandar, January 1, 1978.
47. H. Trivedi, *The Mer . . .* (1961), p. 85.
48. Enthoven, *Tribes and Castes of Bombay*, vol. II, p. 151 under *Kanbi*.
49. Majumdar, 'Devi Mahatmya . . .' in: *JISOA* (1938), pp. 118 and cp. also Majumdar, op. cit. (1960), p. 45, mentioning that 'female forms were constructed in plenty in the Yavana country', quoting Bhasa.
50. Trivedi, *Fairs and Festivals*, op. cit., p. 115.
51. Commissariat, op. cit., vol. II, p. 25.
52. J. Burgess, *The Muhammadan Architecture of Ahmedabad*, part II, p. 12.
53. See Appendix 2.
54. Watson, op. cit. (1884), p. 689.
55. M.A. Dhaky, "The Chronology of the Solanki Temples . . ." in: *J. Madhya Pradesh Itihasa Parishad* (1961), no. 3, p. 28.
56. 'Stone inscription of a vapi . . . at Sadadi . . .' in: *A Collection of Prakrit and Sanskrit Inscriptions*, pp. 143-144.
57. J.N. Banerjee, *The Development of Hindu Iconography*, p. 495.
58. Ibid., pp. 171-172.
59. Keith, op. cit. (1925), p. 141.
60. *Hiranyakesi Grhya Sutra*, II.4.5, quoted in Keith, op. cit. (1925), p. 142.
61. Masani, op. cit. (1918), p. 109.
62. Forbes, *Ras Mala*, op. cit.

63. D.D. Kosambi, *The Culture and Civilisation* . . . , p. 102.
64. W.J. Wilkins, *Hindu Mythology*, pp. 34-35.
65. Francois Bernier, *Travels* . . . , p. 309.
66. Commissariat, op. cit., vol. II, p. 53.
67. *Sankhyayana grhya sutra*, v. 2, quoted in: Kane, op. cit., p. 890.
68. *Paraskara-grhya-sutra*, quoted, ibid., p. 891.
69. Mainly vv. 6-16.
70. *Apararka, Hemadri* (Danakhanda), *Danakriyakaumudi, Jalasayotsargatattva* of Raghunanda, quoted in Kane, op. cit., II, II, p. 892.
71. Kane, op. cit., p. 892.

CHAPTER 2

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2. *Śabdakalpdruma*, under *vapi*.
3. *Amarakośa*, ed. V. Jhalakikar, p. 61, stanzas 26-28 and commentary to them. It gives numerous synonyms for the different kinds of water-monuments. The line concerned with *vapi* runs as follows: '... pond, pool, reservoir, stepwell and tank.' The commentary remarks: 'The tank (*dirghikā*) that has two *dirghi* (?) is called stepwell (*vāpikā*) with down-leading passage (*avarohāṇa*).'
4. *Jalasayotsargatattva* of Raghunandana, Jivananda edition, quoted in Kane, op. cit., II, II, p. 891.
5. Monier-Williams, op. cit., p. 941 under *vapi*.
6. See 'Stone inscription of Sodhaldi Vao in Mangrol dated S. 1202', mentioning *Deguyavāṇi*; 'Stone inscription in Lakshmi Narayana Temple at Mahuva, under Bhavnagar', mentioning 'an excellent *vav* filled with fresh water' (v. 4); and 'Stone inscription, Vala, Kathiawad, dated S. 1828', mentioning that 'a *vav* was built', all three in: *A Collection of Prakrit and Sanskrit Inscriptions*, op. cit.; and cp. the inscription in Nāgā Bāva stepwell of Dhṛāṅgadhrā of the early 16th century, ref. B.I.b(4).
7. K. Bruhn, *The Jina Images of Deogarh* (Leiden, 1969), p. 29.
8. "Gool Archaeological Finds . . .", in: *Times of India*, July 4, 1977.
9. G.V. Acarya, *Historical Inscriptions of Gujarat*, part I, pp. 12-13.
10. E. Hultzsch (ed.), *Corpus Inscriptionum Indicarum*, vol. I Inscription of Aśoka, p. 130: Seventh Pillar-Edict: . . . B. Round the Pillar (p. 135) (S) 'And (at intervals) of eight *kos* wells were caused to be dug by me, and flights of steps (for descending into the water)' were caused to be built. The footnote says: 'Bühler read *nimsiḍhiyā* which he rendered by 'rest-house' connecting it with *nishidiyā* (from Sk. *nishidat*) in the Nagarjuni Hill Cave inscription of Kharavela L.15, Lüders (SPAW, 1914, 852) compares with it the Ardhamāgadhi *seḍhi*=Sk. *ślishti*. As *seḍhi* is synonymous with Sk. *śreṇi*, he attributes to *nimsiḍhiyā* the sense of Sk. *nīśrayaṇī*, 'a ladder, a flight of steps'. This meaning would fit the text admirably, but the actual reading of the pillar is *nimsi(ḍha)ḍhiyā* which would correspond to Sk. *nīśliṣṭaka*. For the change of *śi* to *nis*, see Pischels Grammatik § 74, and for *ḍh*=original *sh* cp. *aḍha*=*ashṭa* at the beginning of section S.
11. Inscriptions of Dhruvasena: E. Hultzsch, "Ganeśgadh plates of Dhruvasena I, Gupta samvat 207", in: *Ep. Ind.*, vol. 3, 1894-95, p. 318; Sten Konow, 'Palitana Plates of Dhruvasena I, Valabhi samvat 206', in: *Ep. Ind.*, vol. XI, 1911-12, p. 104; ibid., p. 109, 'Palitana Plates of Dhruvasena I, Valabhi samvat 210'; ibid., p. 112, 'Palitana Plates of Dhruvasena I, Valabhi samvat 210'.
Inscriptions of Dharasena: J.F. Fleet (ed.), *Corpus Inscr. Ind.*, vol. III, Inscriptions of the Early Gupta Kings . . . , pp. 164 ff, no. 38, Maliya Copperplate Inscription of Maharaja Dharasena II, the year 252; G.V. Acarya, *Historical Inscriptions* . . . , op. cit., pp. 62-63, 'Dharasena II, Copperplate grant of Jhar village, Gupta samvat 252'.
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13. Hultzsch, in: *Ep. Ind.*, vol. XI, p. 81 ff.
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16. A.S. Gadre, *Important Inscr. from the Baroda State* (Baroda 1942), pp. 12-13.
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19. Hultzsch, 'Ganeśgadh plates . . .', op. cit.
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25. R.C. Agrawala, 'Inscriptions from Jagat', in: *JOI*, vol. XIV, no. 1, 1964, p. 75.
26. *Samarāṅgaṇa Sūtradhāra*.
27. K. Sompura, *The Structural Temples of Gujarat*, p. 265.
28. M.P. Vora and M.A. Dhaky, 'The Date of *Aparājitaṭpucchā*', in: *JOI*, vol. XI, 1959-60, p. 431.
29. Bruno Dagens, *Mayamata*, pp. 1-4.
30. T. Bhattacharyya, *The Canons of Indian Art* . . . , p. 92.
31. D.N. Shukla, *Vāstu Śāstra*, vol. I, Hindu Science of Architecture, pp. 163-167.
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33. Other water-constructions listed in the *Samarangana S.* are described in Shukla, op. cit., pp. 383-384; cp. also stone inscription of Sodhali Vav in Mangrol (*A Collection of Prakrit* . . . , op. cit., p. 158) where it is said: '... the wav by name Deguyāvavī situated near the road leading to the village of Visanaveli (and is) surrounded by rows of trees, well known (as a public place of) enjoyment ...'
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44. Bruno Dagens, op. cit.
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11. See also Dhaky, 'Dāvad ni Vāv', op. cit.
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18. H. Shastri, 'Gujarāt na prācīn vāvo', op. cit., p. 18.
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33. See Appendix 2.
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14. *Jain Miniature Painting from Western India*, Jain Art Publication Series, no. 1 (Ahmedabad, 1949), p. 52.

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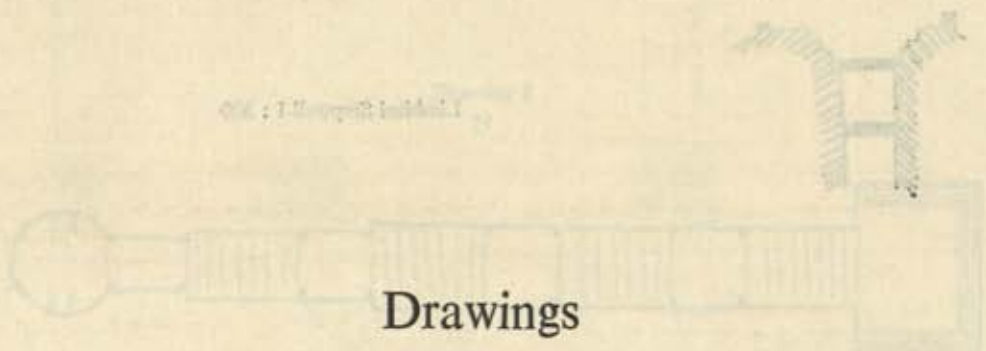
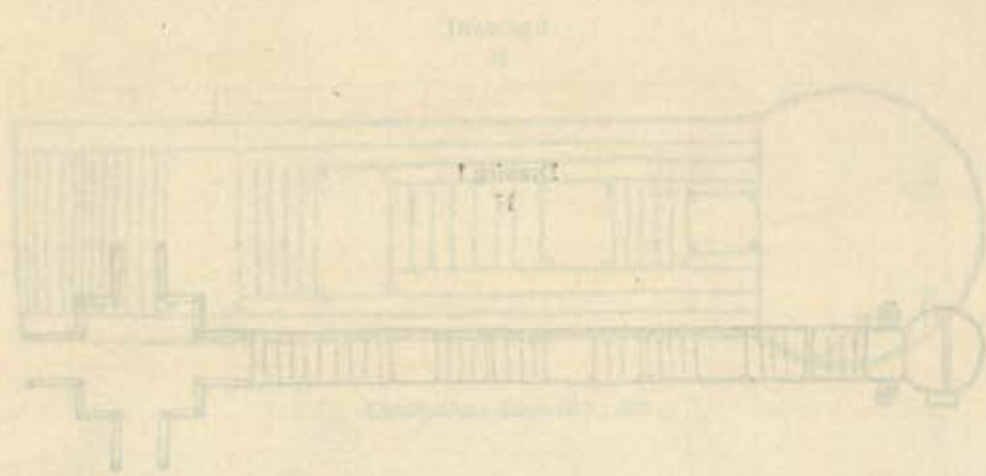
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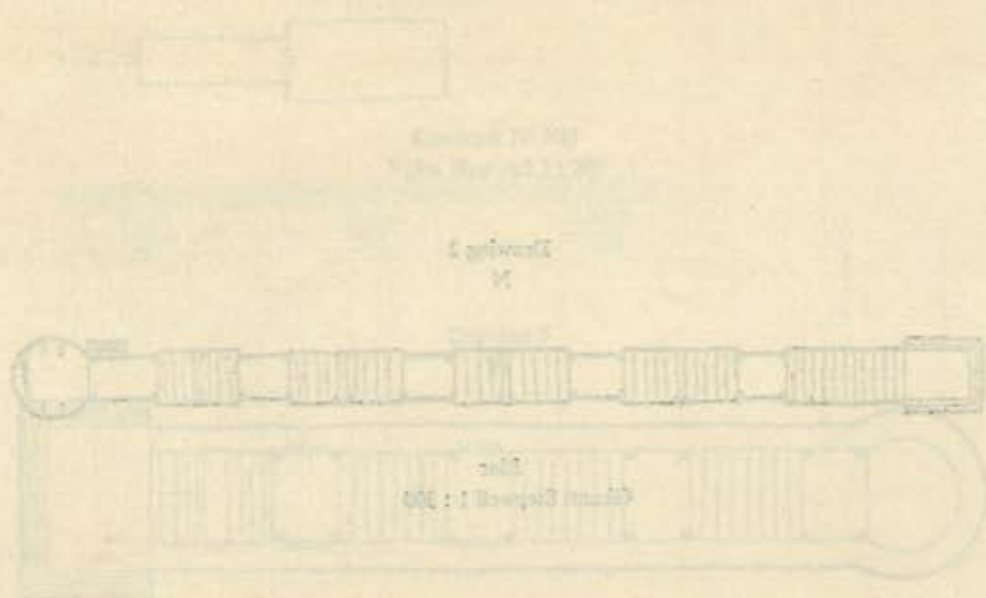
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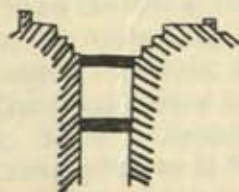
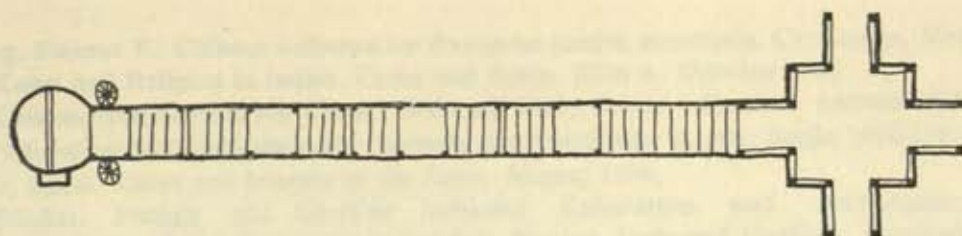


Drawings



Drawing 1

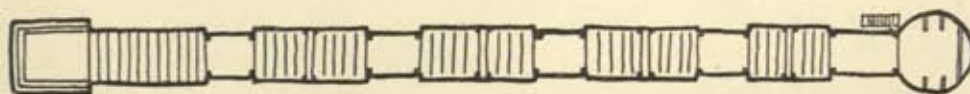
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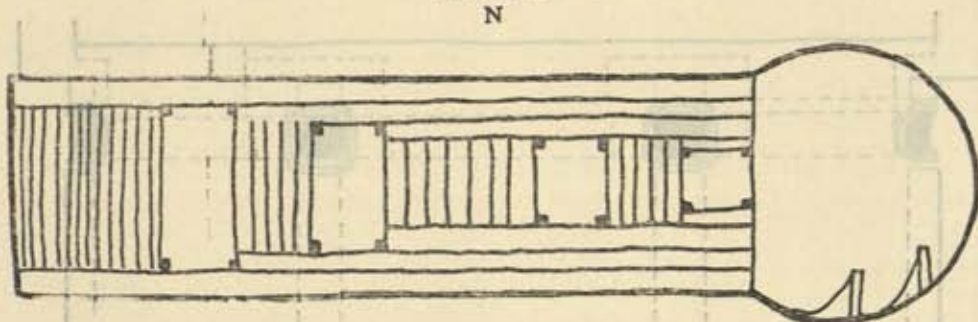
Limbhoi Stepwell 1 : 300

Drawing 2

N

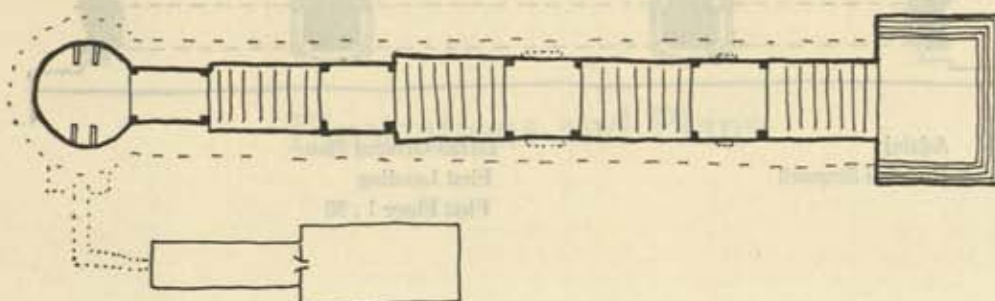
Idar
Ghanti Stepwell 1 : 300

Drawing 3
N



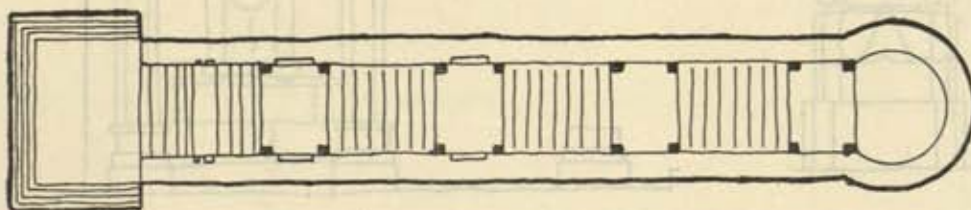
Khedbrahma Stepwell 1 : 300

Drawing 4
N



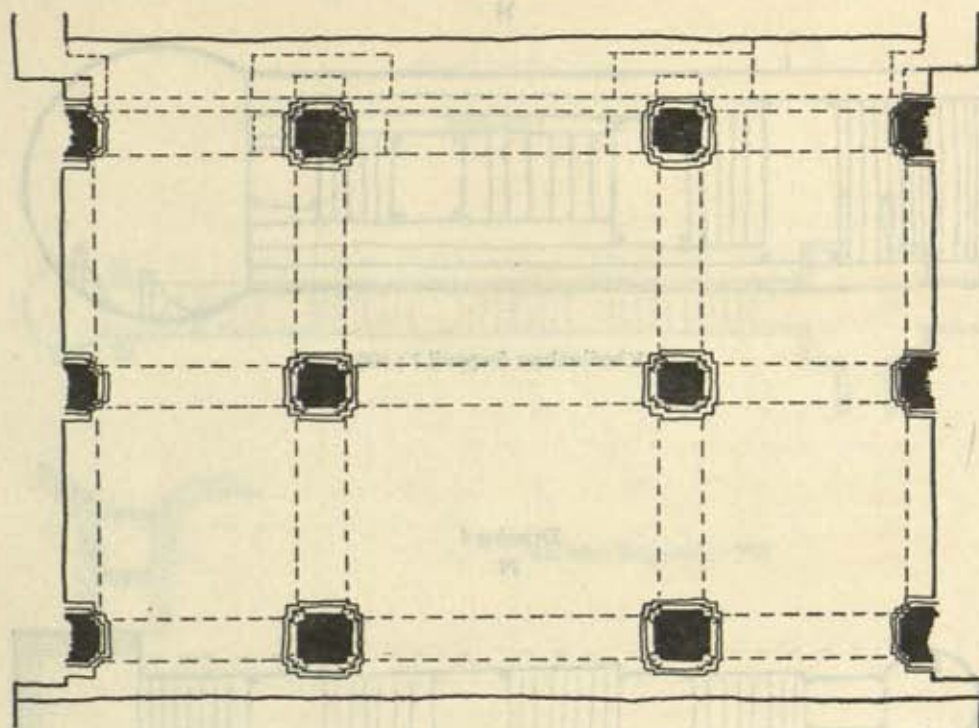
Kāleśvarī Nī Nāḷ
Vāhu Stepwell 1 : 200

Drawing 5
N



Kāleśvarī Nī Nāḷ Sāsu Stepwell 1 : 200

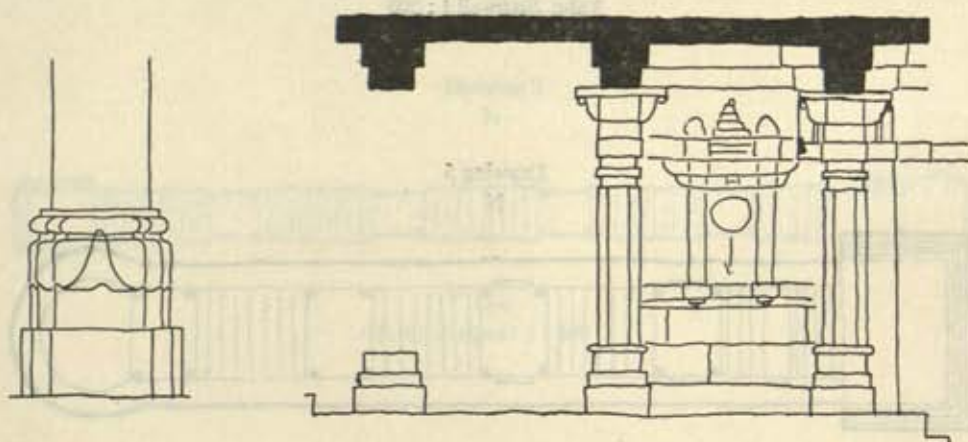
Drawing 6A



Adalaj
Rudabai Stepwell

Detail Ground Plan
First Landing
First Floor 1 : 50

Drawing 6B



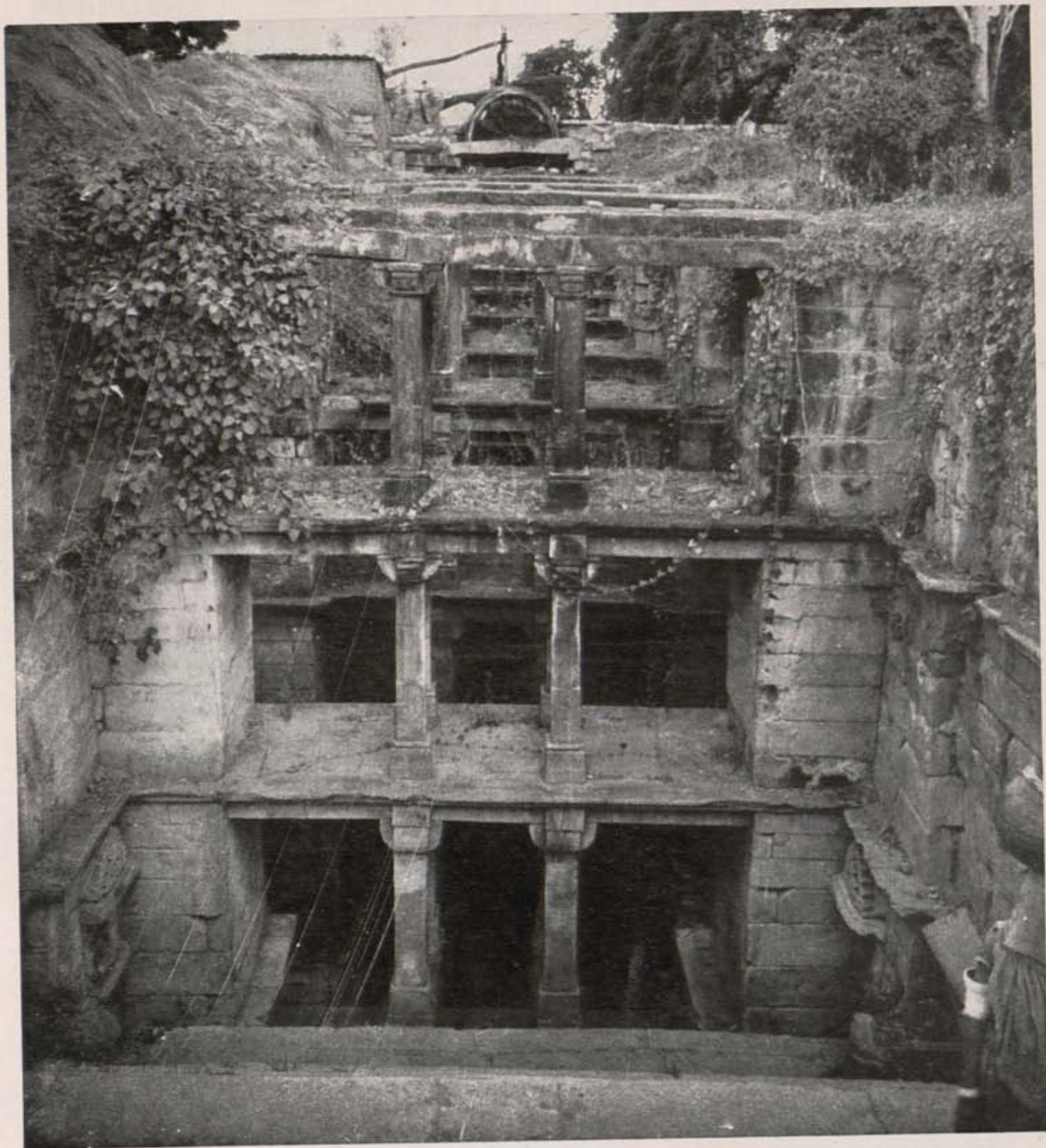
Basement Pillar
1 : 20

Section
First Landing, First Floor 1 : 50

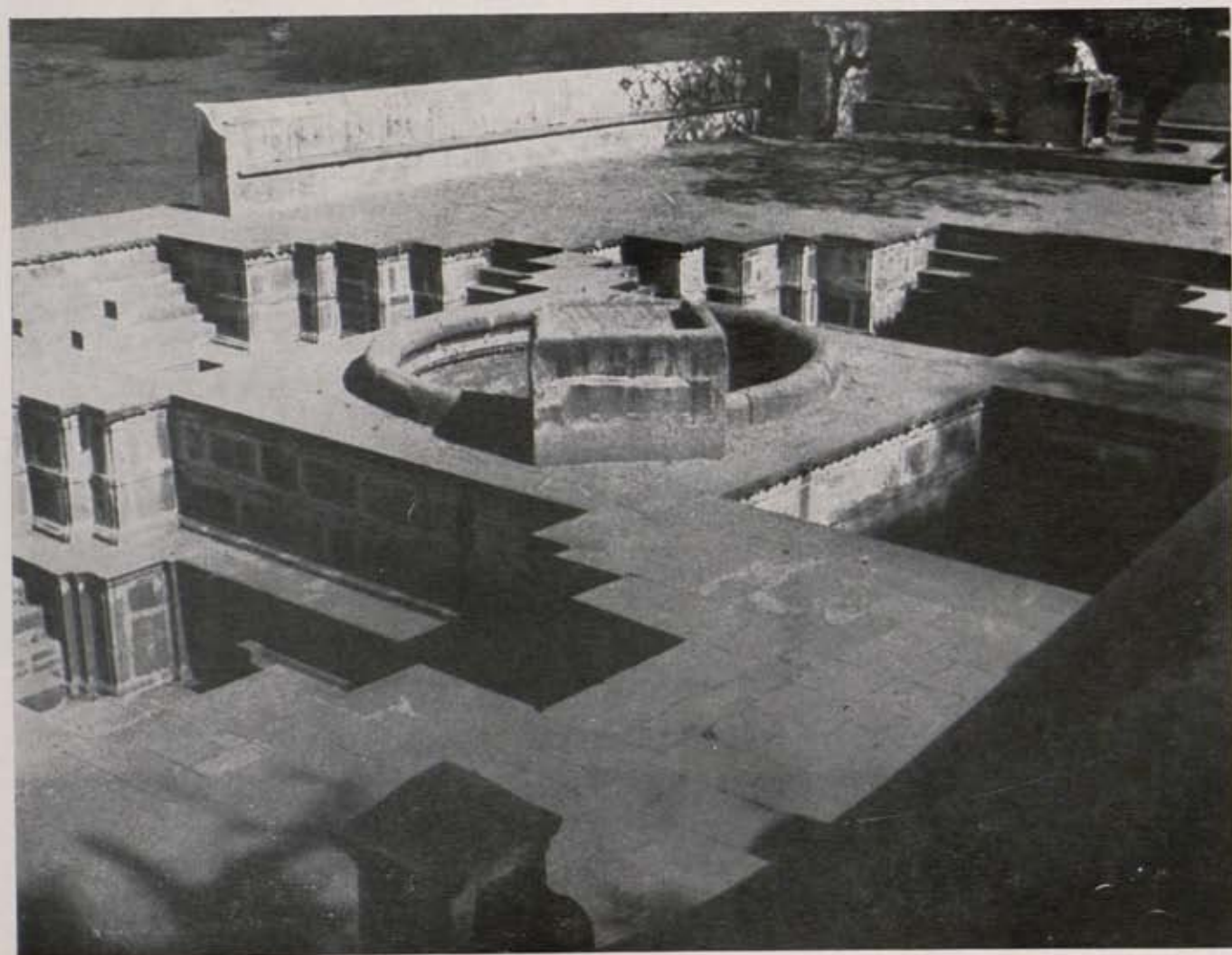
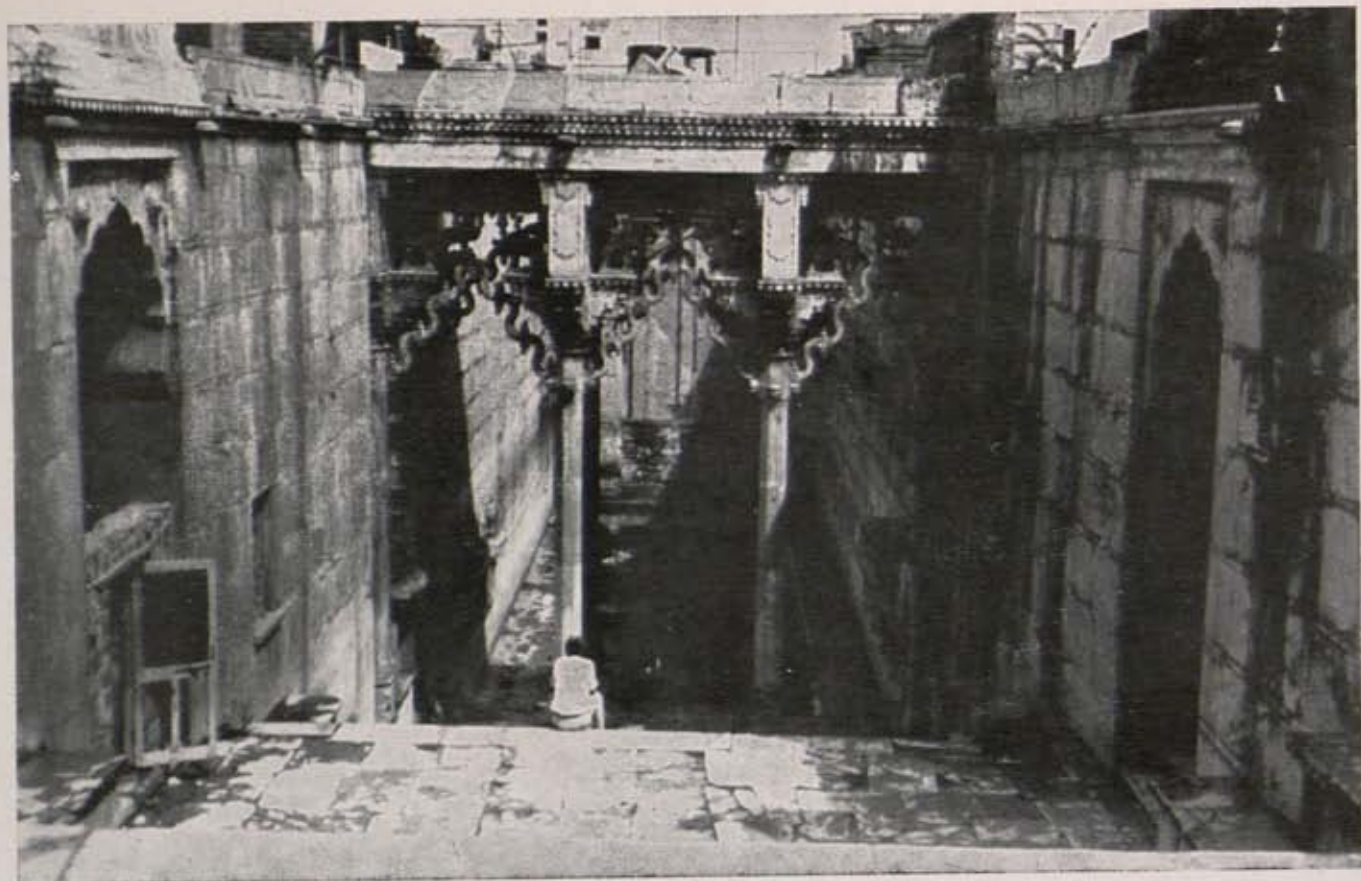
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1. Nāḍol, Rajasthan—Rūpa stepwell—c. end of 10th cent.





4. Miāni—Gaṇapati Shrine—Surashtra style—6th/7th cent.
5. Vadhvān—Rānik Devī temple—Mahā Gurjara style—c. A.D. 900.
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2. Bundi, Rajasthan—Rānī stepwell—late mediaeval age.
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3. Loteśvar—stepwell—mediaeval age.
(facing page : bottom)



6. Miāni—Nilakanṭha Mahādeva temple—Māru Gurjara style—A.D. 1204.



7. Visavada—Mūla Dvārakā temple complex—Siva temple—c. 13th cent.

8. Miāni—Nilakaṇṭha Mahādeva temple—Māru Gurjara style—
A.D. 1204.



9. Ānandpur—Navaiakha temple—Māru Gurjara style—early
13th cent.





12. Modherā—Sun temple—Māru Gurjara style—third quarter of 11th cent.

10. Ghumli—Navalakha temple—Māru Gurjara style—early 13th cent. (above)

11. Modherā—Sun temple—Māru Gurjara style—third quarter of 11th cent. (right)





13. Mt. Abu—Vimala Vasāhi—12th cent.



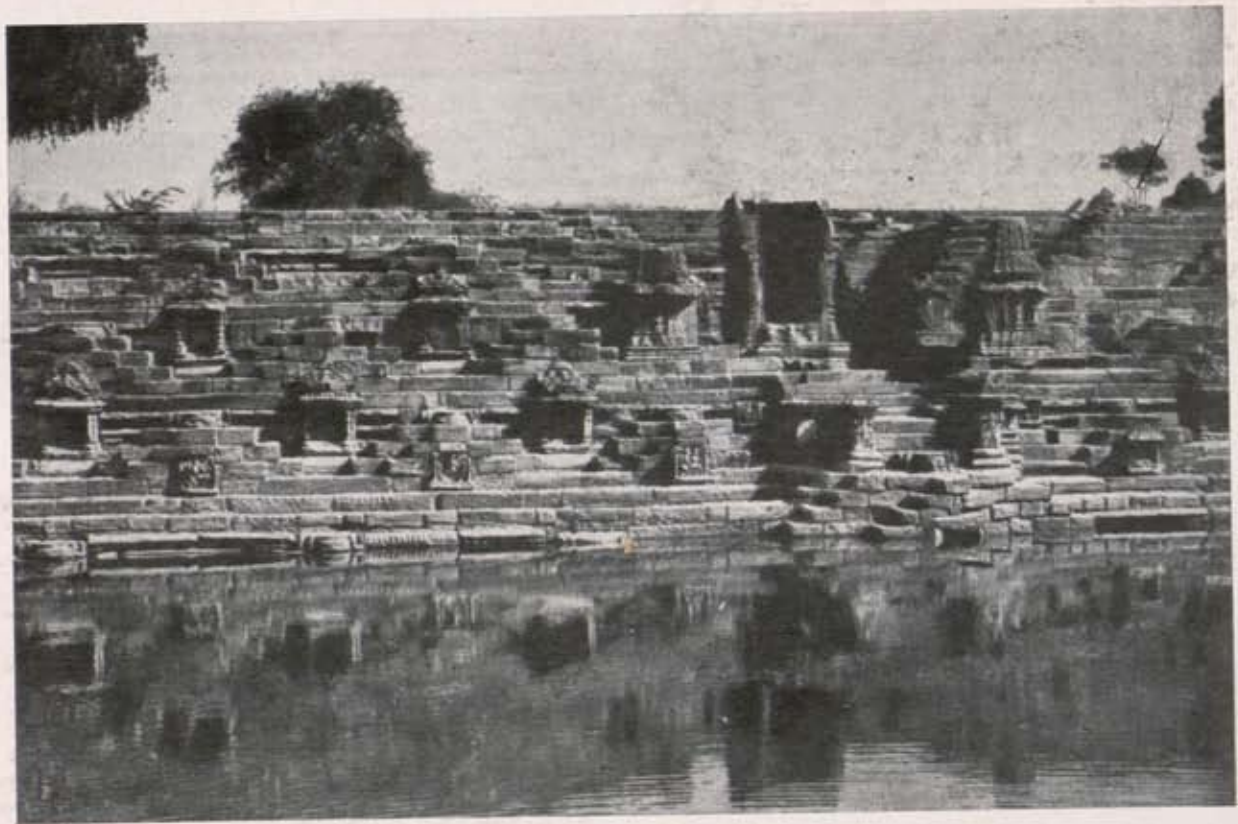
14. Dabhoi—Hira gate—c. A.D. 1255.



15. Junagaḍh — Uparkot—Buddhist Caves — Pond—Kṣātrapa period— 2nd to 4th cent. A.D.



16. Moḍherā—Sun temple with raṅgamaṇḍapa and Sūryakuṇḍa—third quarter of 11th cent.



18. Moḍherā—Sūryakunḍa.

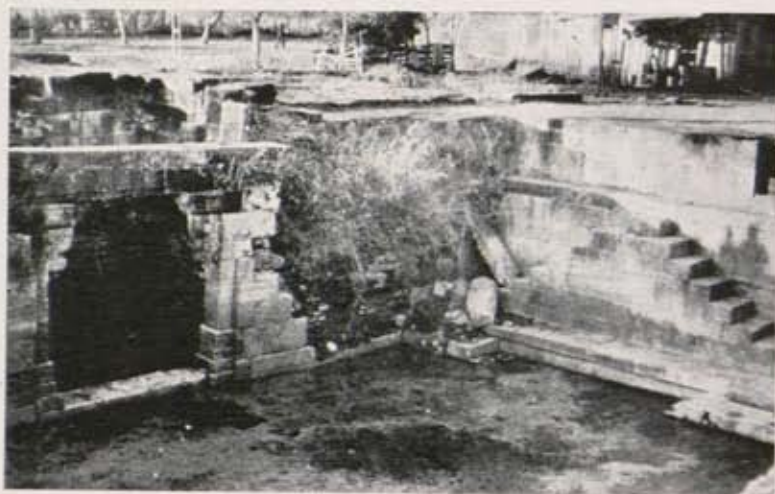
17. Moḍherā—Sūryakunḍa. (above)

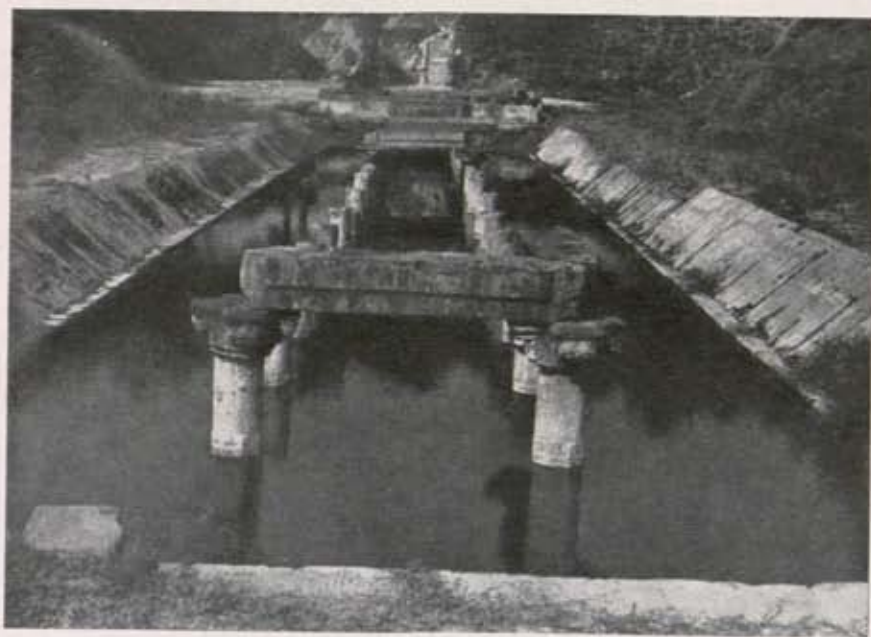
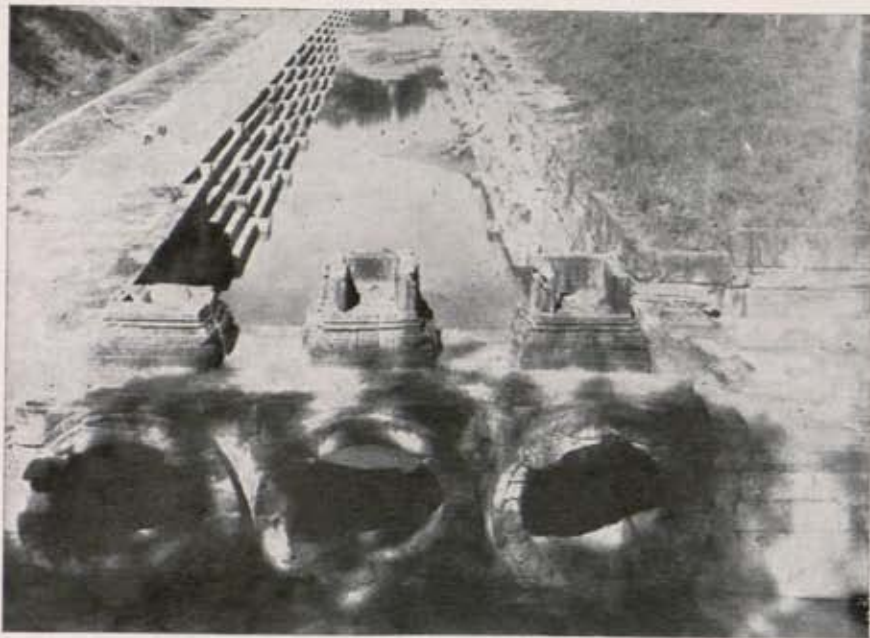


21. Kāpaḍvañj—Kuṇḍa—end of 12th cent.

20. Kāpaḍvañj—Kuṇḍa—end of 12th cent. (bottom)

19. Iḍar—Kuṇḍa—c. 10/11th cent.





22. Pāṭaṇ—Sahasraliṅga Tālaḥ—11th cent.

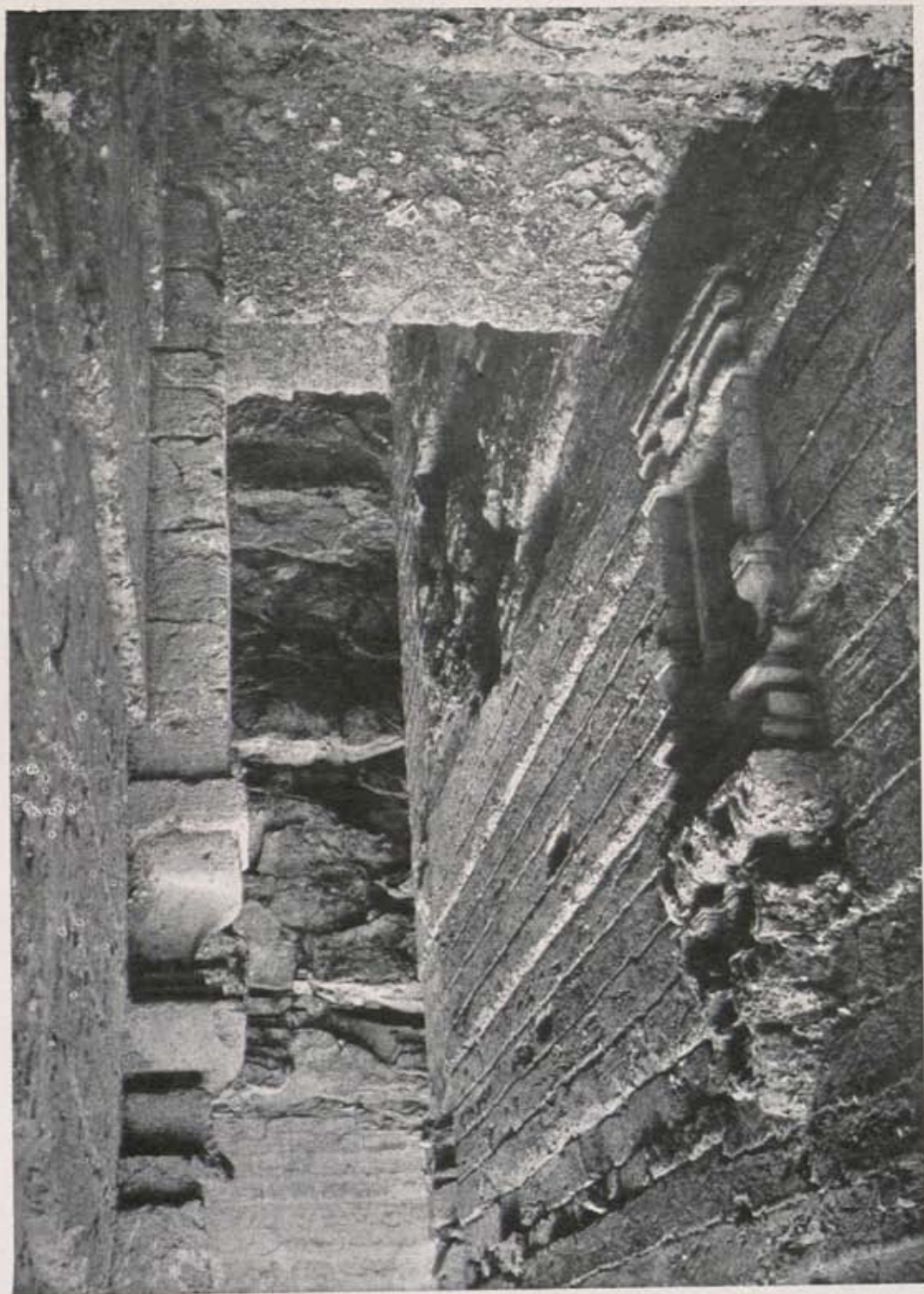
23. Pāṭaṇ—Sahasraliṅga Tālaḥ—11th cent. (above)



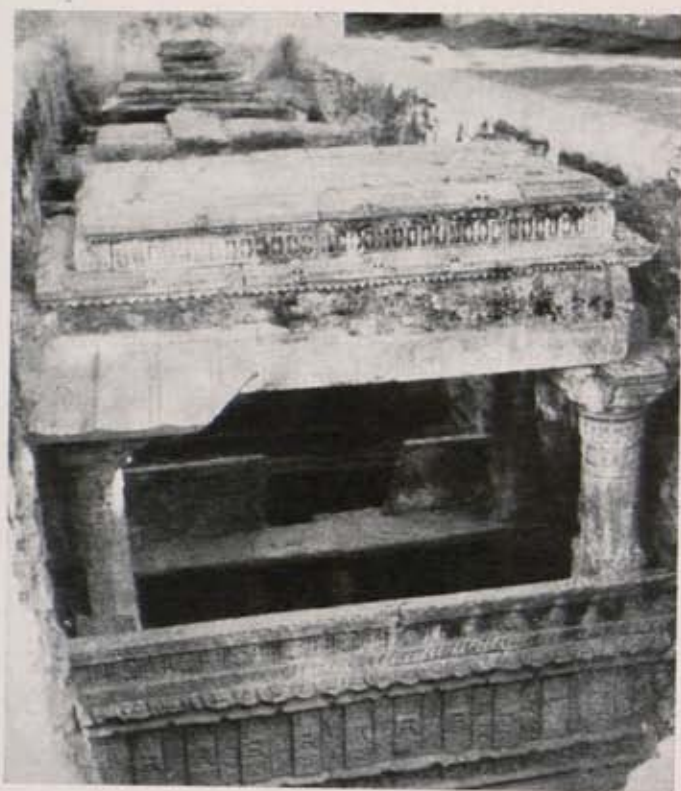
26. Jūnagaḍh—Navghan Kuo—c. 11th cent., original parts may be 2nd-4th cent. A.D.

24. Dābhoi—Saptamukhī Vāv—c. A.D. 1255. (above : left)

25. Jūnagaḍh—Aḍi Kadi stepwell—c. 10th cent. (above : right)



27. Dhāṅk—Manjushrī stepwell—Surashtra style—c. early 7th cent.



29. Jhinjhuvāḍa—stepwell—c. early 12th cent.

28. Jhinjhuvāḍa—stepwell—c. early 12th cent. (left)



30. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.



31. Dāvāḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.

32. Dāvāḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.





33. Dāvād—Aṅkol Mātā stepwell—third quarter of 11th cent.



34. Dāvād—Aṅkol Mātā stepwell—third quarter of 11th cent.

35. Dāvād—Aṅkol Mātā stepwell—third quarter of 11th cent.





38. Dāvād—Ankol Mātā stepwell—third quarter of 11th cent.

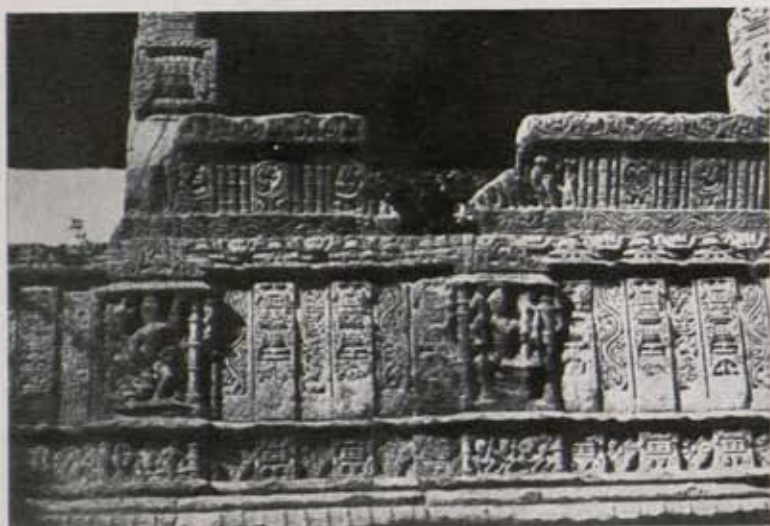
36. Dāvād—Ankol Mātā stepwell—third quarter of 11th cent. (above : left)

37. Dāvād—Ankol Mātā stepwell—third quarter of 11th cent. (above : right)



←

39. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.



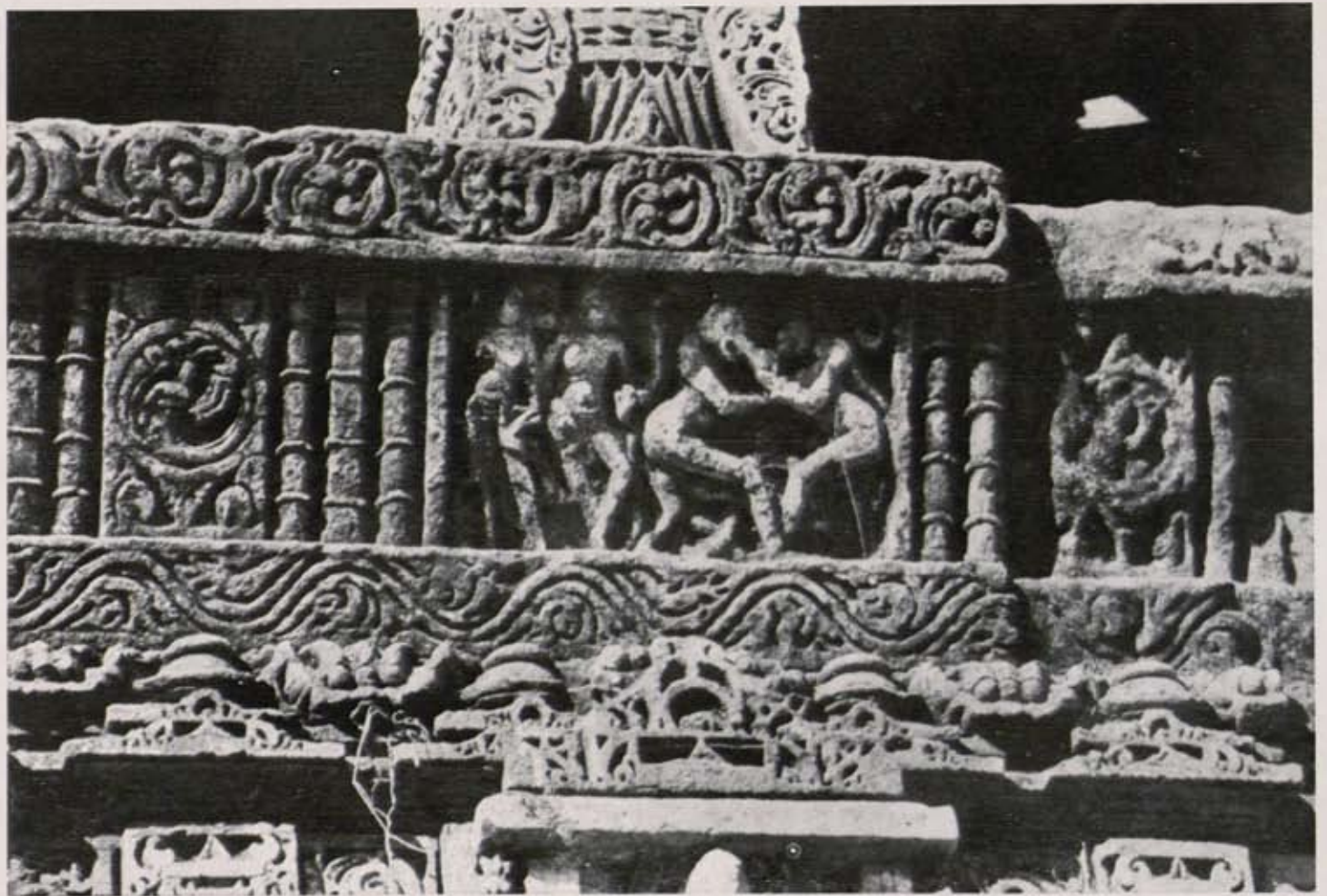
←

40. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.

41. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.

↓

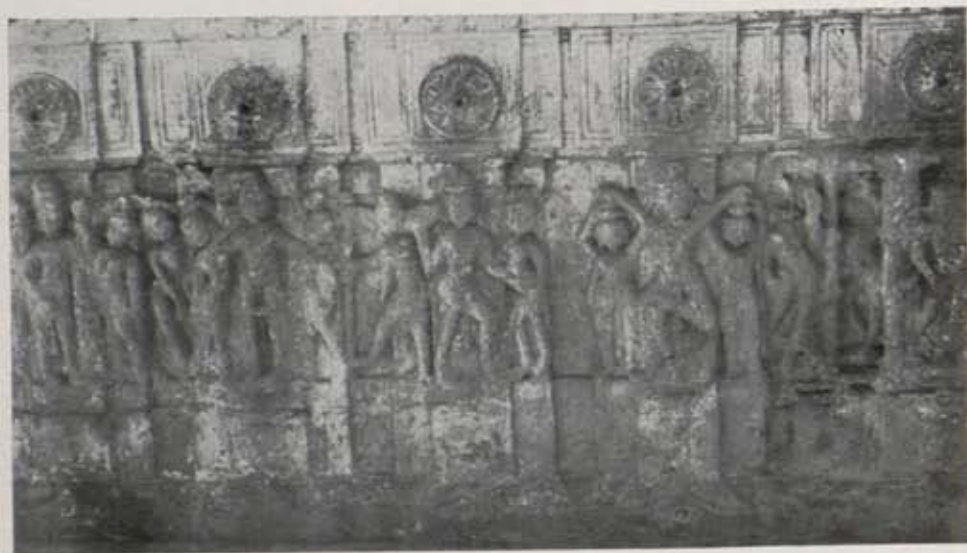




43. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent.

42. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent. (above : left)

44. Dāvaḍ—Aṅkol Mātā stepwell—third quarter of 11th cent. (above : right)



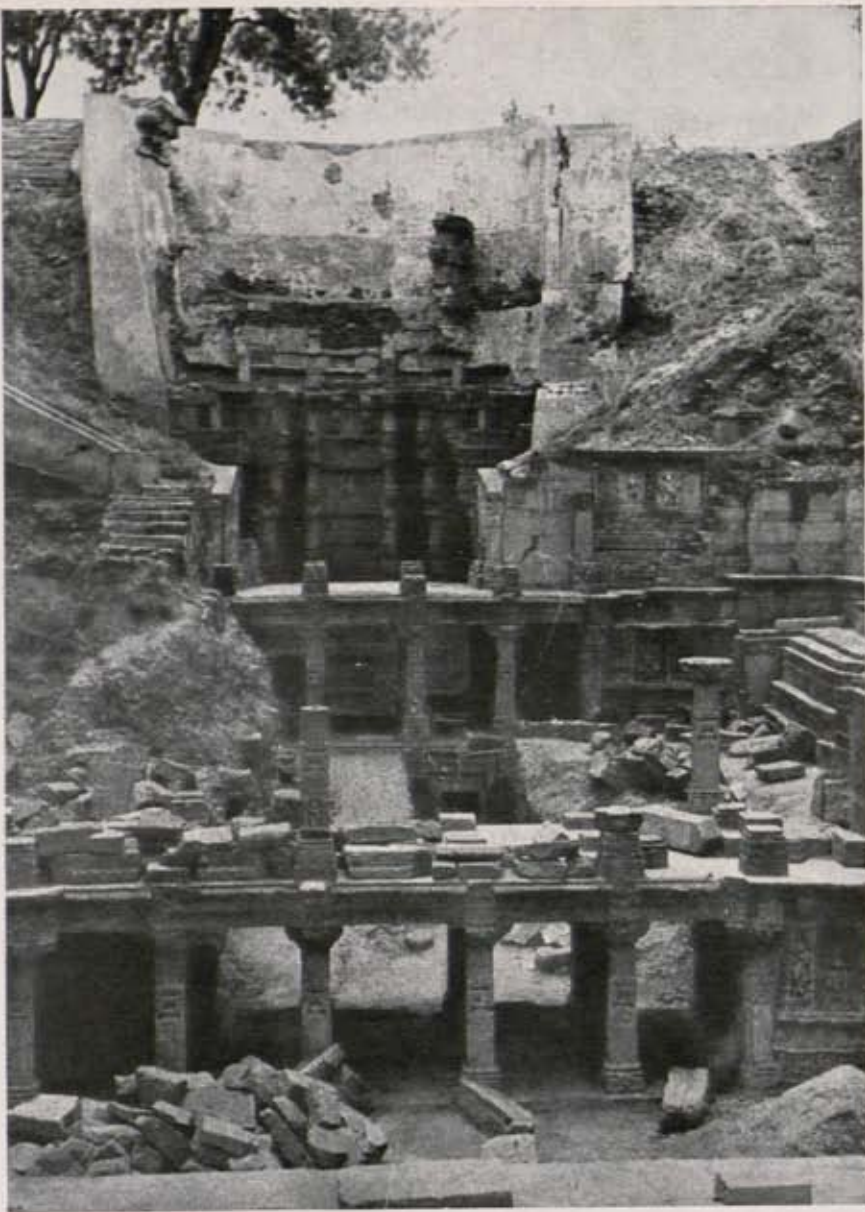
45. Chāraḍa—stepwell—mediaeval period. (above : left)

46. Dāvād—Aṅkol Mata stepwell—third quarter of 11th cent. (above : right)

← 47. Dāvād—Aṅkol Mātā stepwell—third quarter of 11th cent.



← 48. Bakhor—stepwell—mediaeval period.



49. Pāṭan—Rānī stepwell—
11th cent.

50. Pāṭan—Rānī stepwell—
11th cent.

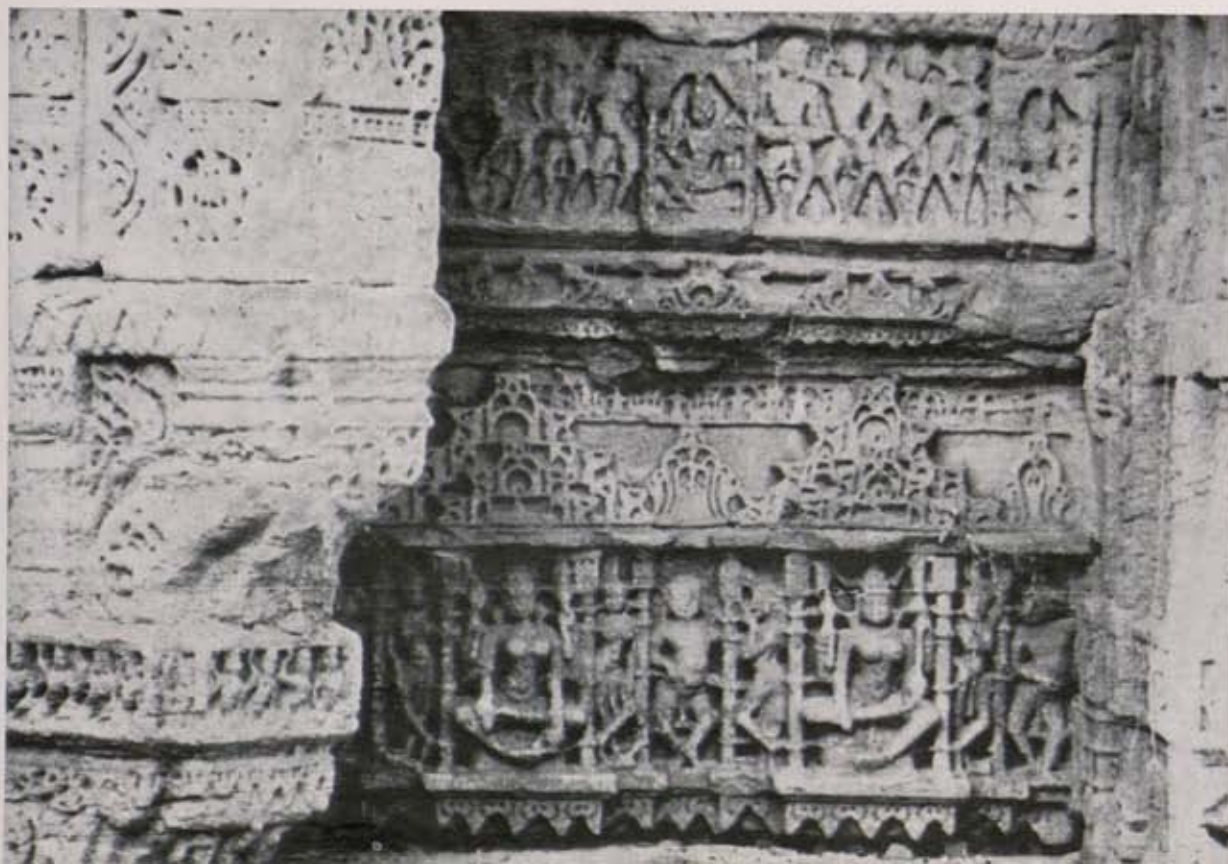




51. Pāṭaṇ—Rāṇī stepwell—11th cent.



53. Pāṭaṇ—Rāṇī stepwell—11th cent.



52. Pāṭaṇ—Rāṇī stepwell—11th cent.
↓



56. Pāṭaṇ—Rāṇī stepwell—11th cent.
 55. Pāṭaṇ—Rāṇī stepwell—11th cent. (above : right)
 54. Pāṭaṇ—Rāṇī stepwell—11th cent. (above : left)



59. Pāṭaṇ-Rāṇī stepwell—11th cent.

57. Pāṭaṇ-Rāṇī stepwell—11th cent. (above : left)

58. Pāṭaṇ-Rāṇī stepwell—11th cent. (above : right)



61. Pāṭaṇ—Rāṇī stepwell—11th cent.

60. Pāṭaṇ—Rāṇī stepwell—11th cent. (above)

67. Ahmedābād—Mātā Bhavānī stepwell—11th cent.
(bottom : left)

66. Ahmedābād—Mātā Bhavānī stepwell—11th cent.
(bottom : right)

62. Paṭaṇ—Rānī stepwell—11th cent.

63. Paṭaṇ—Rānī stepwell—11th cent.

64. Pāṭaṇ—Rānī stepwell—11th cent.







68. Kāpaḍvañj—Bātris Kotha stepwell—
probably 11th cent.



69. Kāpaḍvañj—Bātris Kotha stepwell—
probably 11th cent. (above : right)



70. Kāpaḍvañj—Bātris Kotha stepwell—
probably 11th cent. →

71. Kāpaḍvañj—Bātris Kotha stepwell—
probably 11th cent. →





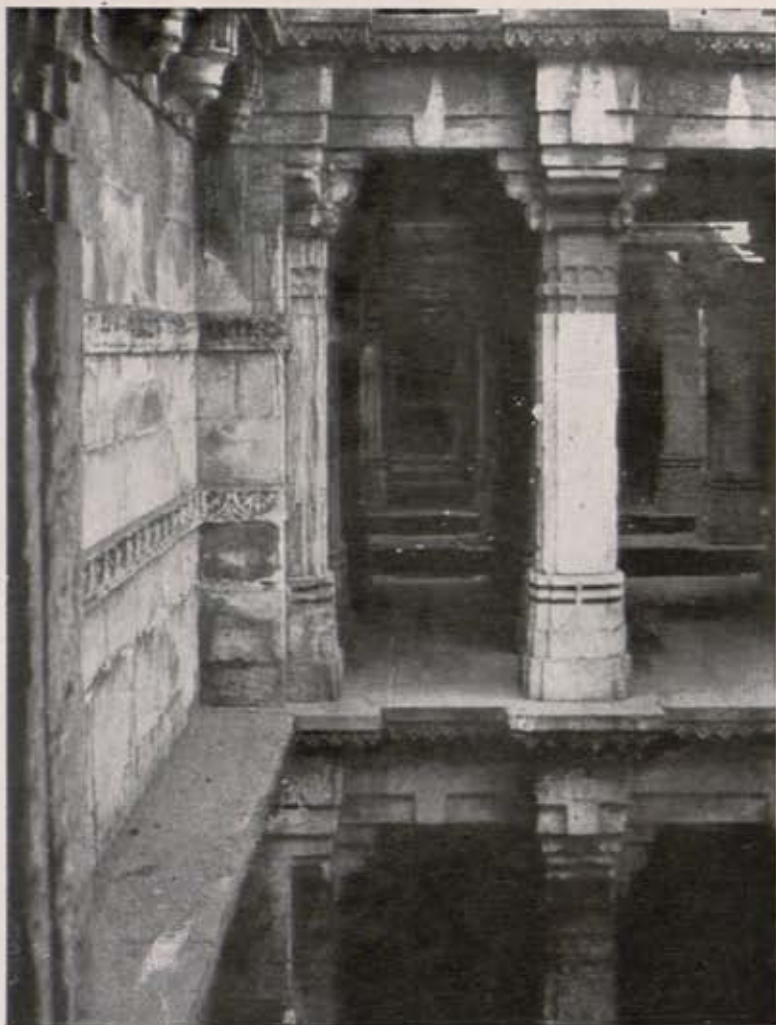
← 72. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.

↓ 73. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.





74. Ahmedābād—Dūdā Harīr stepwell—A.D. 1499.



←
75. Ahmedābād—Dādā Harīr
stepwell—A.D. 1499.

76. Ahmedābād—Dādā Harīr
stepwell—A.D. 1499.
↓



77. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.



78. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.



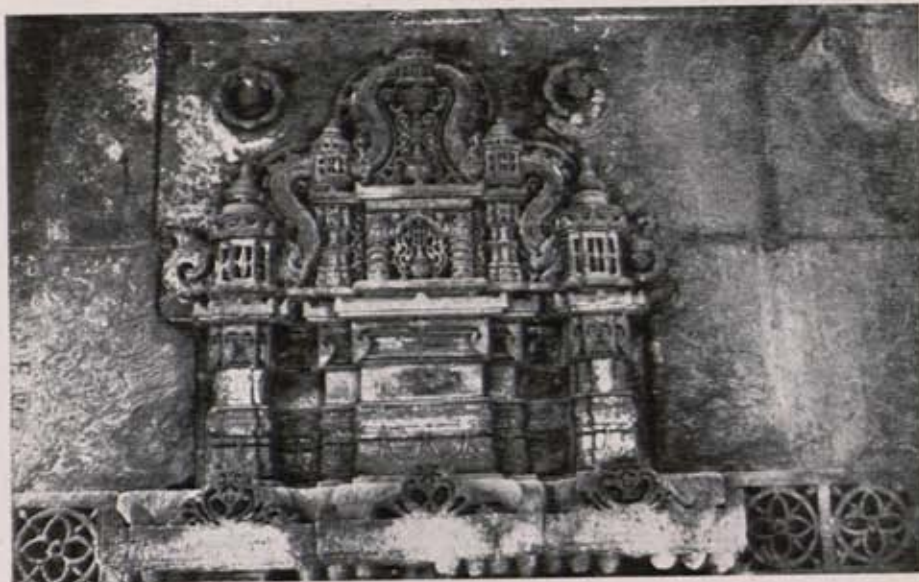
79. Ahmedābād—Dādā Harīr
stepwell—A.D. 1499.





← 80. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.

↓ 81. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.



82. Ahmedābād—Dādā Harīr stepwell—A.D. 1499.



85. Limbhoi—stepwell—A.D. 1630.
(facing page : top)

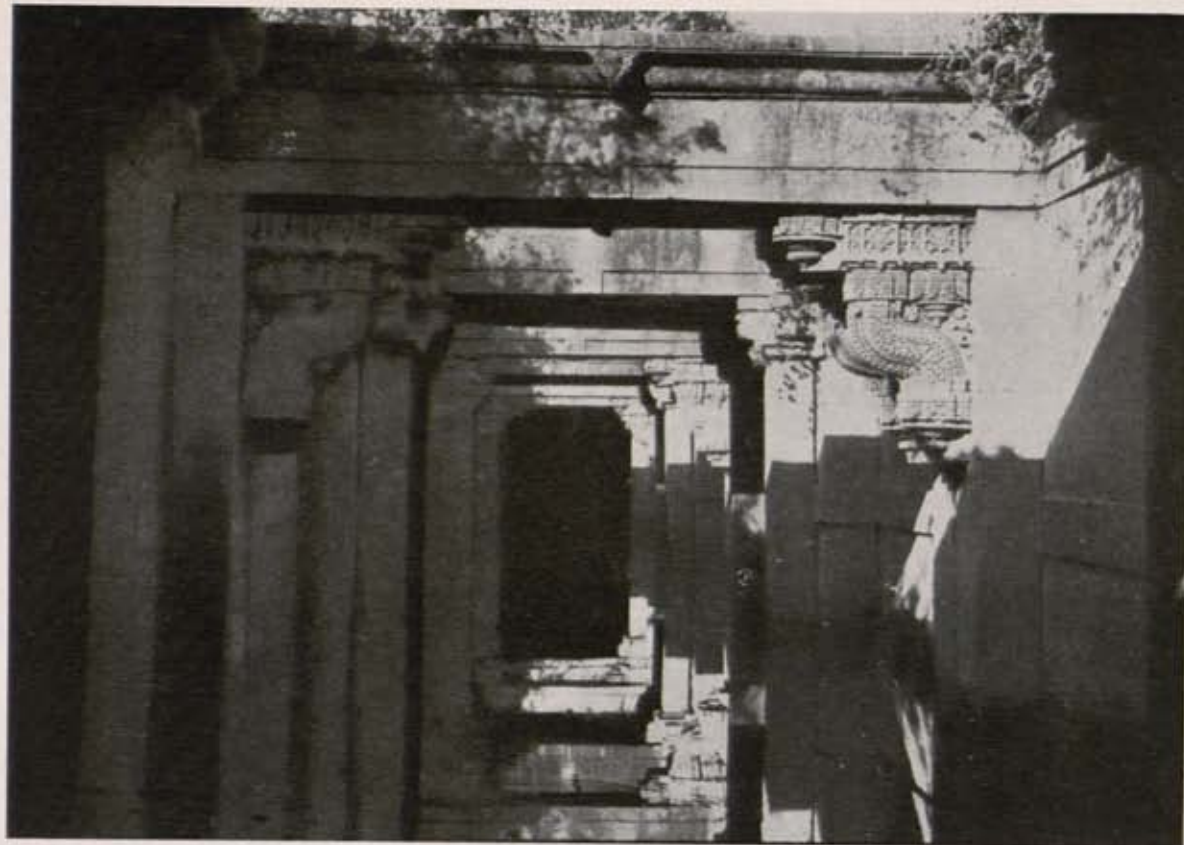
←

83. Limbhoi—stepwell—A.D. 1630.



←

84. Limbhoi—stepwell—A.D. 1630.



86. Limbhoi—stepwell—A.D. 1630.



87. Limbhoi—stepwell—A.D. 1630.



91. Sāṭhambā—stepwell—c. 12th. cent
89. Limbhoi—stepwell—A.D. 1630. (above)

29. Sāṭhambā—stepwell—c. 12th cent.
90. Limbhoi—stepwell—A.D. 1630. (above)



88. Limbhoi - stepwell - A.D. 1630.

94. Sāṭhambā - stepwell - c. 12th cent.



95. Sāṭhambā - stepwell - c. 12th cent.



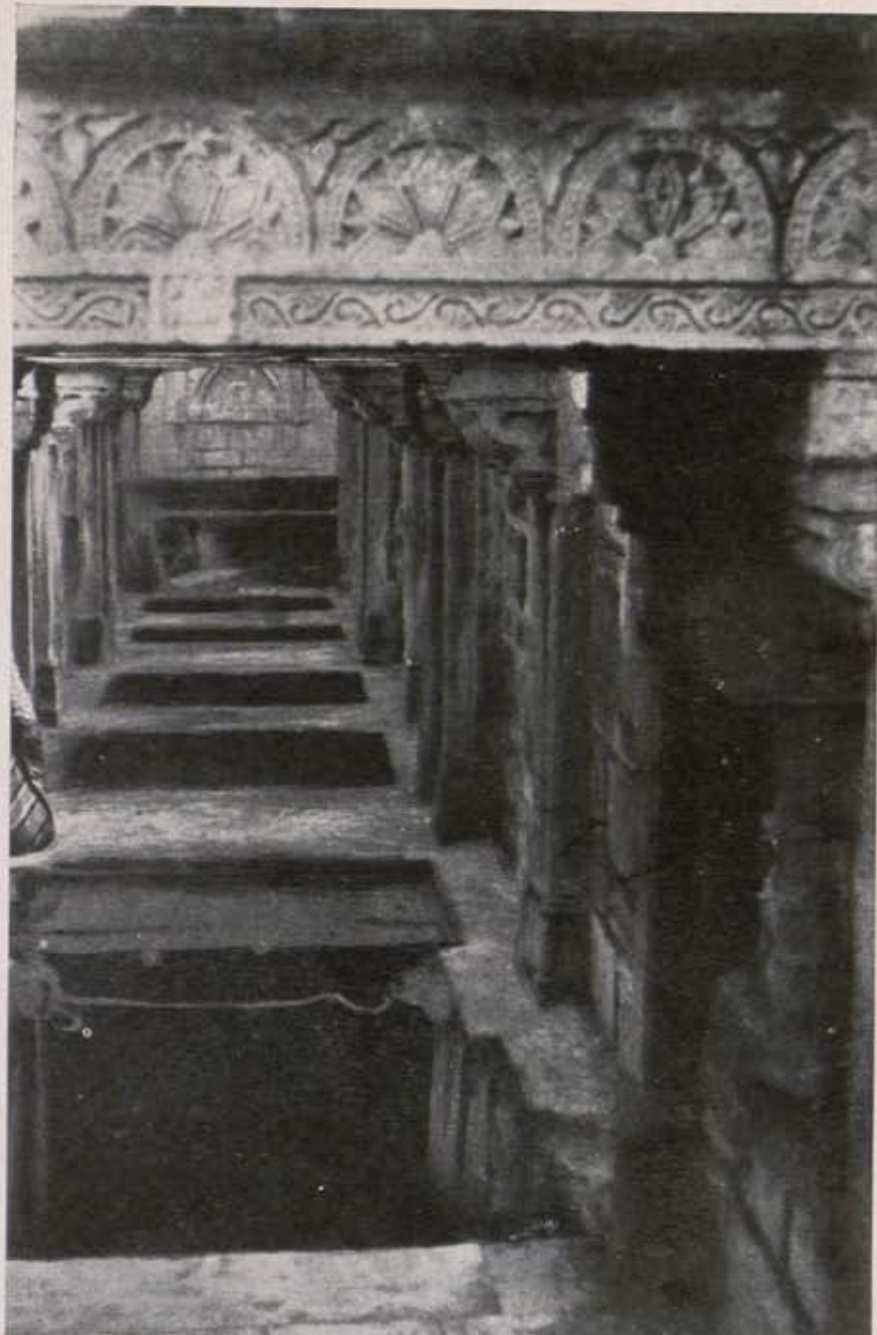


↑
97. Sāṭhamb—stepwell—c. 12th cent.

96. Sāṭhamb—stepwell—c. 12th cent.
(above : left)

98. Sāṭhamb—stepwell—c. 12th cent.

←
93. Sāṭhamb—stepwell—c. 12th cent.

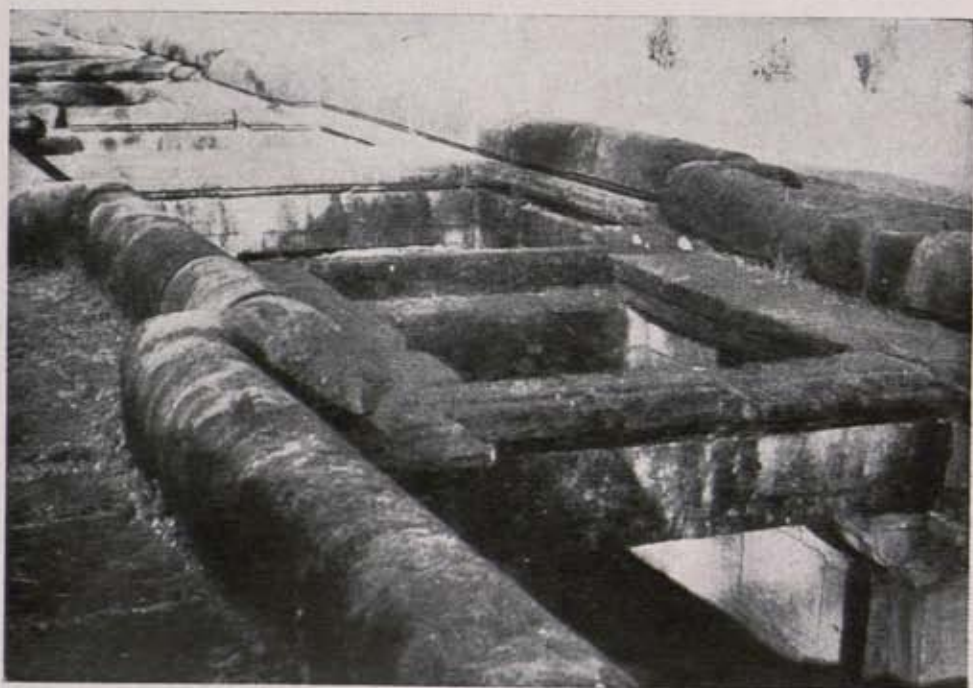


←
99. Dhrāngadhṛā—Nāgā Bāvā stepwell —
c. A.D. 1525.

100. Dhrāngadhṛā—Nāgā Bāvā stepwell —
c. A.D. 1525. (below : left)

101. Dhrāngadhṛā—Nāgā Bāvā stepwell —
↓ c. A.D. 1525.





104. Dhrāṅgadhṛā—Nāgā Bāvā
stepwell—c. A.D. 1525.

105. Iḍar—Ghaṇṭī stepwell—c. 16th/17th cent.

102. Dhrāṅgadhṛā—Nāgā Bāvā
stepwell—c. A.D. 1525. (above)

103. Dhrāṅgadhṛā—Nāgā Bāvā stepwell—c. A.D. 1525. (above)



106. İdar—Ghançi stepwell—c.
16th/17th cent. (left)



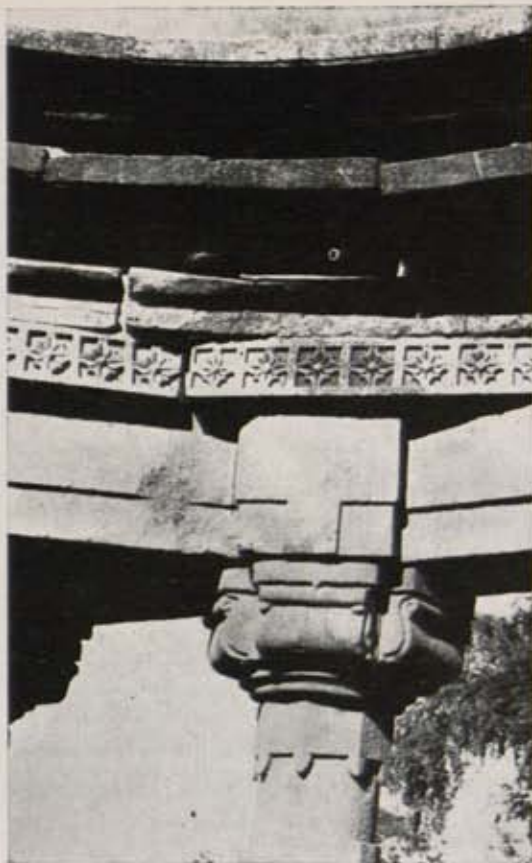
107. İdar—Ghançi stepwell—c.
← 16th/17th cent.

108. İdar—Ghançi stepwell—c.
↓ 16th/17th cent.





109. Hampur—stepwell—
c. 16th/17th cent. (left)



←
110. Hampur—stepwell—c.
16th/17th cent.



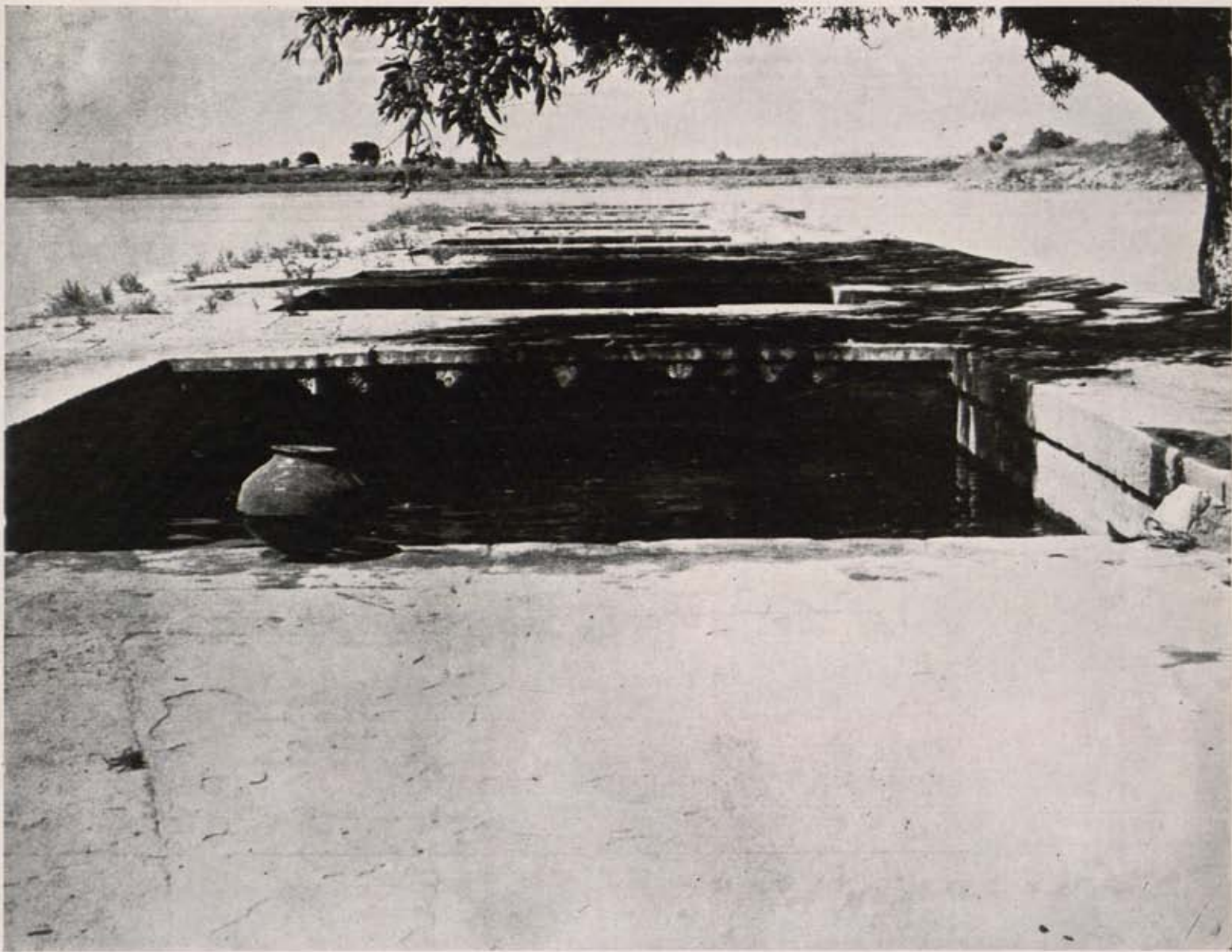
←
111. Hampur—stepwell—c. 16th/17th cent.

↓ 112. Hampur—stepwell—c. 16th/17th cent.

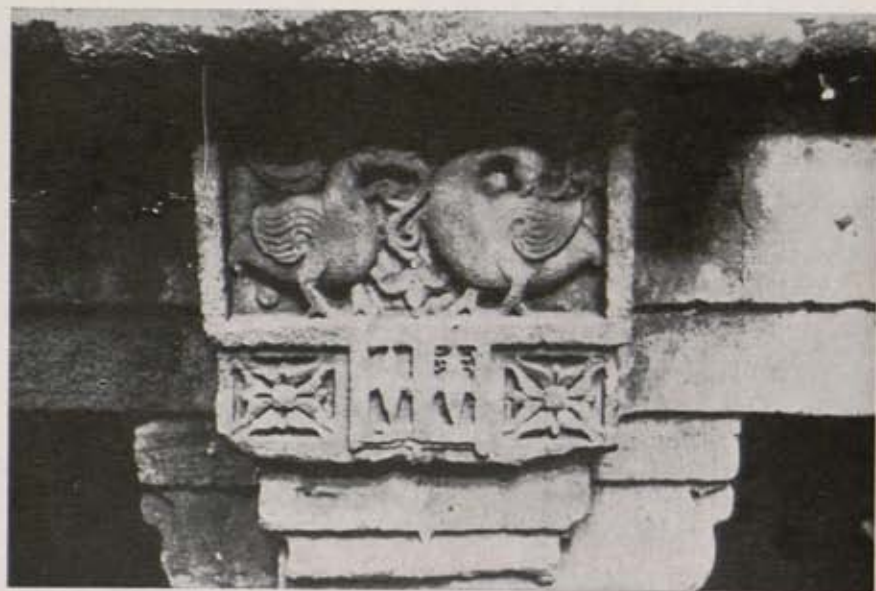


←
113. Hampur—stepwell—c. 16th/17th cent.





114. Kankāvatī—Mātrī stepwell—c. 17th cent.



117. Sevasi—stepwell—A.D. 1485. ↑

116. Sevasi—stepwell—A.D. 1485. (above : right)

115. Sevasi—stepwell—A.D. 1485. (above : left)

← 118. Sevasi—stepwell—A.D. 1485.





121. Ghumli—Vikīā stepwell—beginning of 12th cent.

119. Sevasī—stepwell—A.D. 1485. (above : left)

120. Sevasī—stepwell—A.D. 1485. (above : right)



122. Ghumli—Vikā stepwell—
beginning of 12th cent.



123. Ghumli—Vikā stepwell—
beginning of 12th cent.



←
125. Ghumli—Vikā stepwell—
beginning of 12th cent.

124. Ghumli—Vikā stepwell—
beginning of 12th cent.
(above : left)

←
126. Ghumli—Vikā stepwell—
beginning of 12th cent.



127. Ghumli—Vikia stepwell—beginning of 12th cent.



128. Ghumli—Vikia stepwell—beginning of 12th cent.



130. Ghumli—Vikia stepwell—beginning of 12th cent.

129. Ghumli—Vikia stepwell—beginning of 12th cent.



131. Ghumli—Vikia stepwell—beginning of 12th cent.

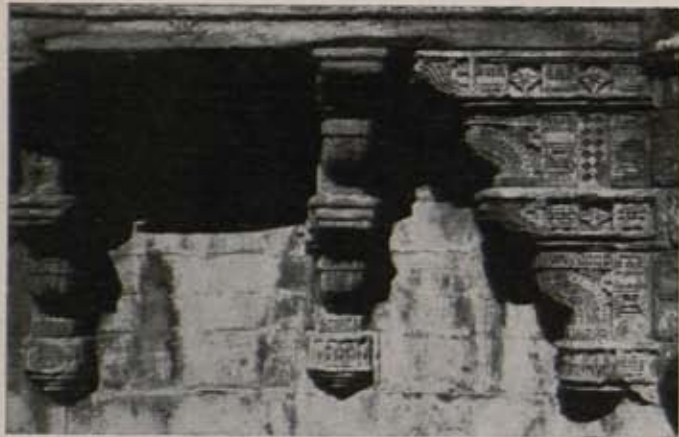
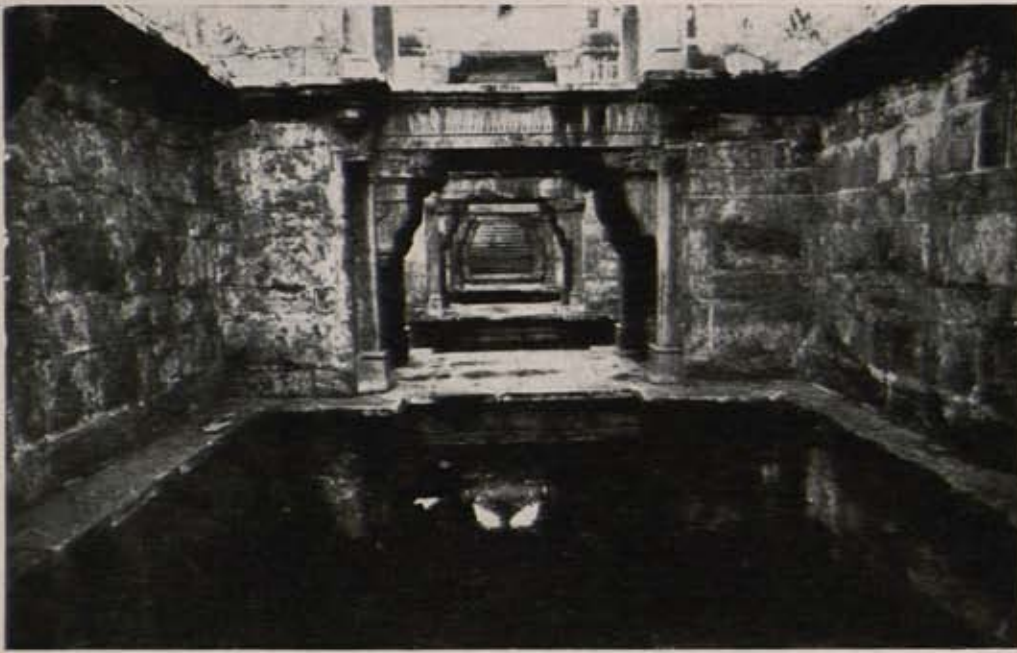


←
132. Vaḍhvān—Mādhā stepwell—
A.D. 1294.

133. Vaḍhvān—Mādhā stepwell—
A.D. 1294. (bottom : left)

134. Vaḍhvān—Mādhā stepwell—
↓ A.D. 1294.



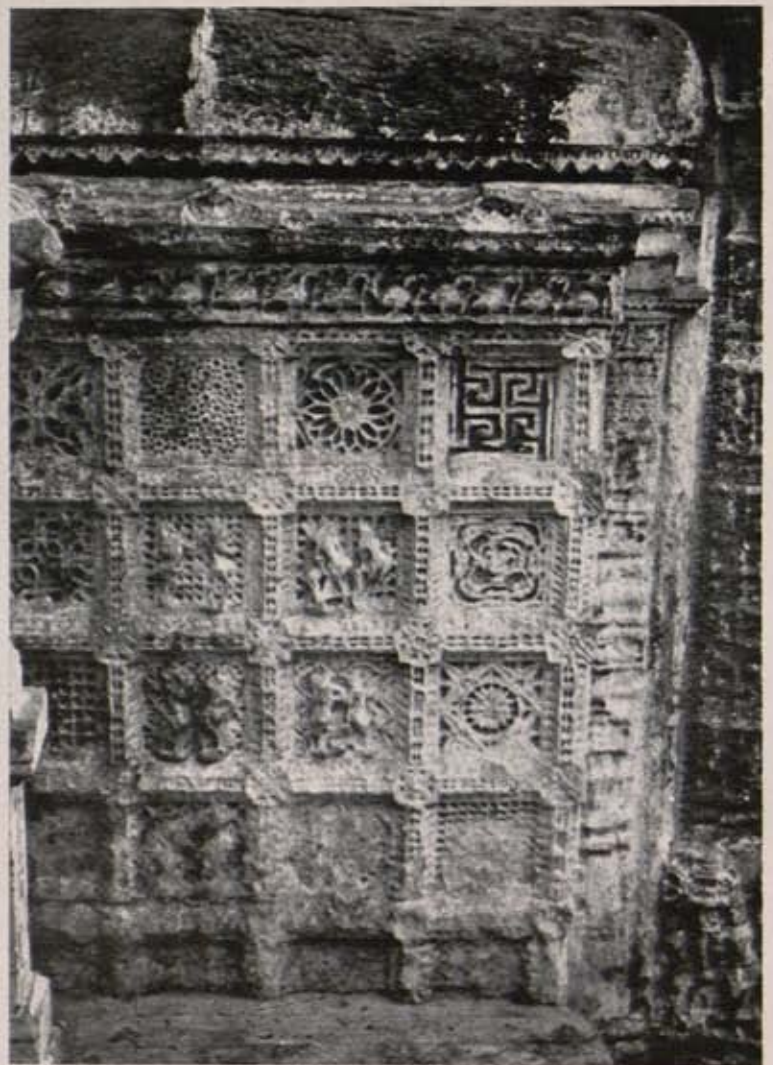


138. Vāḍhvāṇ—Mādhā stepwell—A.D. 1294. ↑

135. Vāḍhvāṇ—Mādhā stepwell—A.D. 1294. (above : left)

137. Vāḍhvāṇ—Mādhā stepwell—A.D. 1294. (above : right)

136. Vāḍhvāṇ—Mādhā stepwell—A.D. 1294. →





139. Khedbrahmā—stepwell—c. 14th cent.



140. Khedbrahmā—stepwell—c. 14th cent.



141. Virpur—Minal stepwell—probably 13th cent.



142. Virpur—Minal stepwell—probably 13th cent.

143. Virpur—Minal stepwell—probably 13th cent.



144. Ahmedābād—Āsāpurī stepwell—early
↓ 16th cent.





146. Ahmedābād—Āsāpuri stepwell—early 16th cent.

145. Ahmedābād—Āsāpuri stepwell—early 16th cent. (above : left)

147. Ahmedābād—Āsāpuri stepwell—early 16th cent. (above : right)

148. Ahmedābād—Āsāpuri stepwell—early 16th cent. →





150. Rāmpura—Rātalā stepwell—
c. 15th cent.

149. Rāmpura—Rātalā stepwell—
c. 15th cent.





153. Vaḍhvān—Gaṅgā stepwell—12th cent. ↑

151. Rāmpura—Rātalā stepwell—c. 15th cent. (above : left)

152. Rāmpura—Rātalā stepwell—c. 15th cent. (above : right)

154. Vaḍhvān—Gaṅgā stepwell—12th cent. →



† 157. Dhandhalpur—stepwell—c. 14th cent.

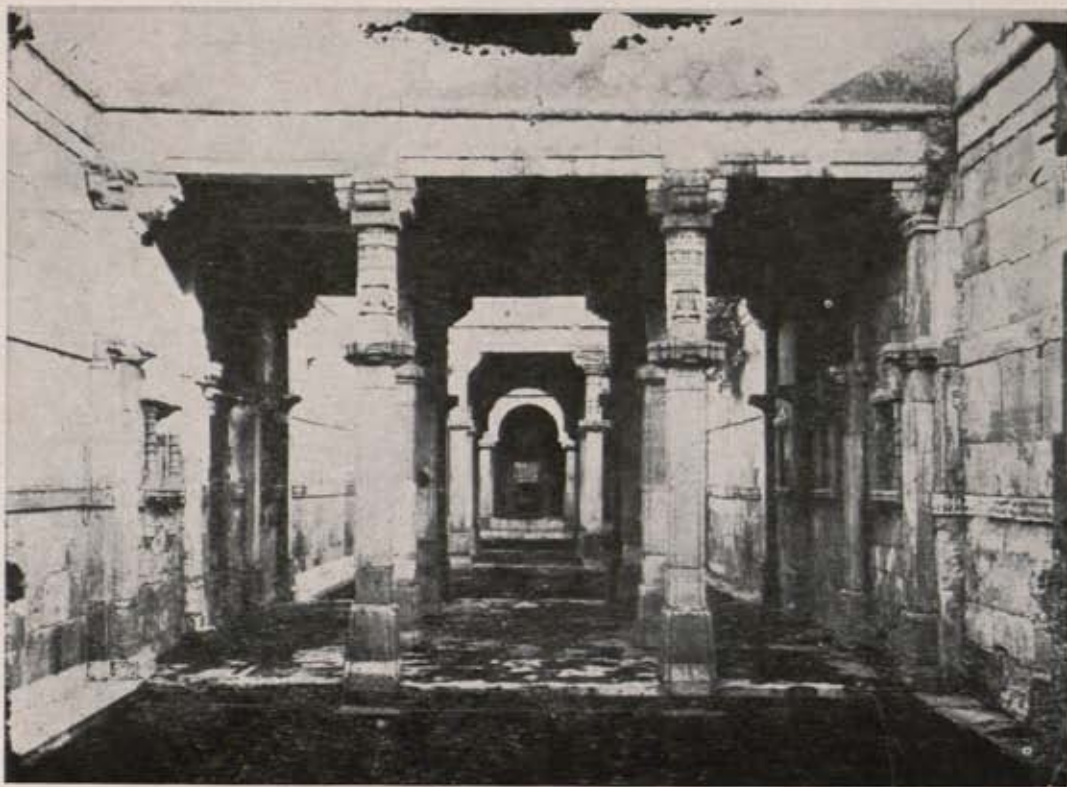
155. Dhandhalpur—stepwell—c. 14th cent.
(above : left)

156. Dhandhalpur—stepwell—c. 14th cent. →

158. Dhandhalpur—stepwell—c. 14th cent.
(above : right)



161. Isānpur—stepwell—c. 19th cent.



160. Isānpur—stepwell—c. 19th cent.

159. Isānpur—stepwell—c. 19th cent. (above)



←
162. Isānpur—stepwell—c. 19th cent.

163. Isānpur—stepw II—c. 19th cent. ↓



↑ 165. Isānpur—stepwell—c. 19th cent.



←
164. Isānpur—stepwell—c. 19th cent.



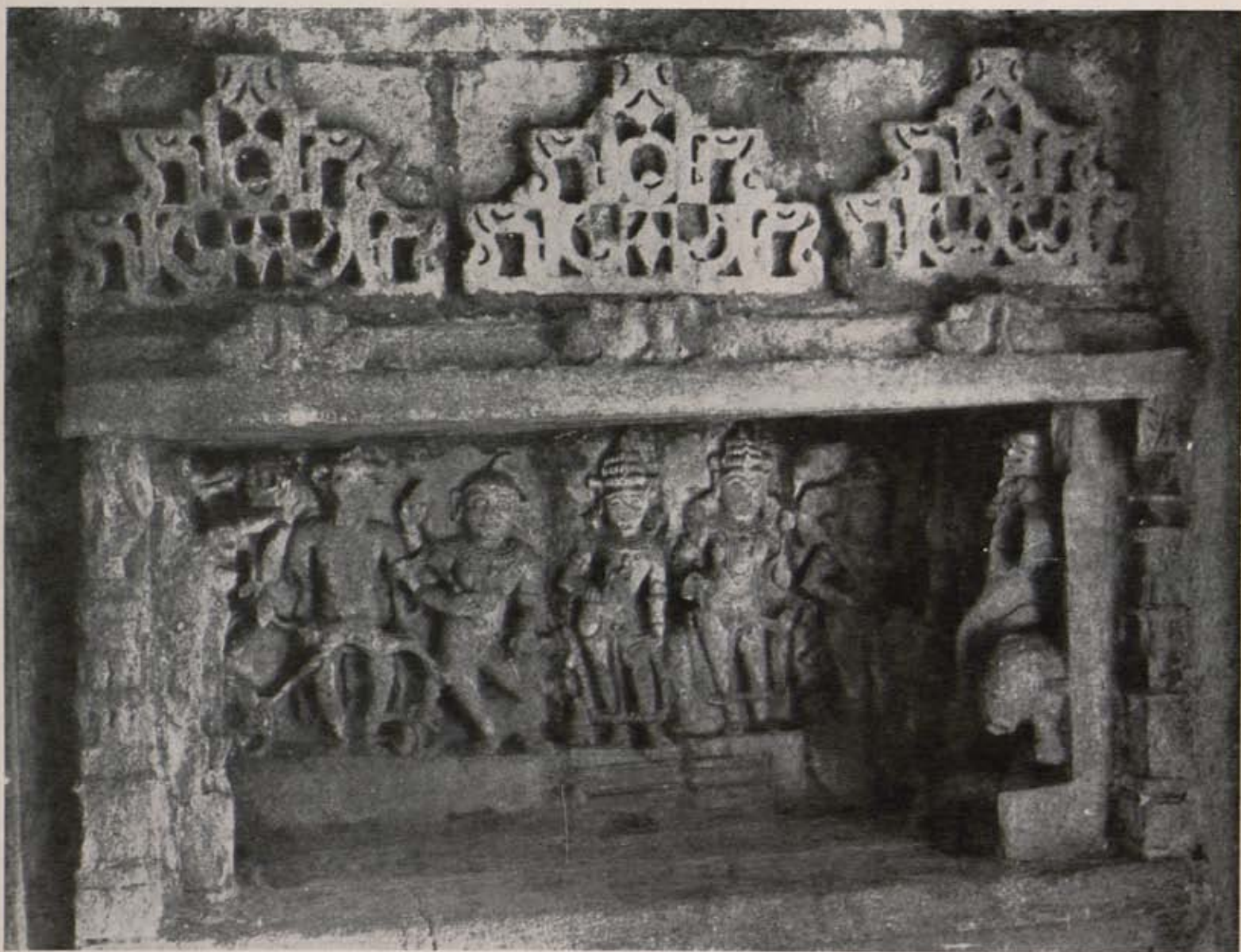
169. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent.

168. Kāleśvarī nī Na|—Sāsu and Vāhu stepwell—c. 10th/11th cent.

166. Isānpur—stepwell—c. 19th cent. (above)

167. Moḍherā—stepwell—c. 11th cent. (above)

170. Kāleśvari nī Na|—Sāsu stepwell—c. 10th/11th cent.





172. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent. ↑

171. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent. (above : left)

173. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent. (above : right)

174. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent. →



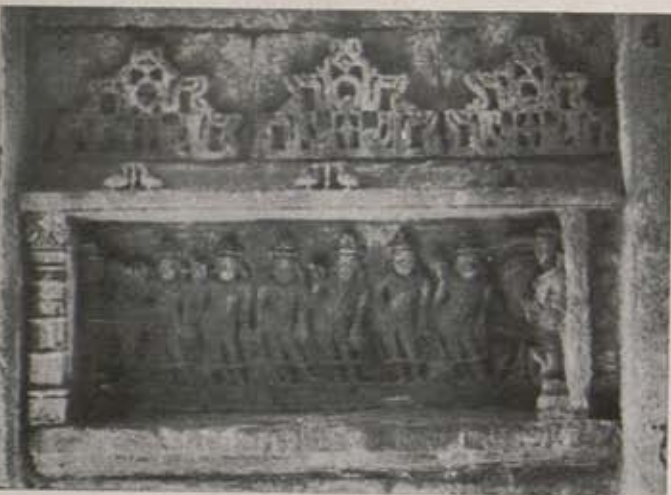


177. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10th/11th cent.

176. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10th/11th cent. (above : right)

175. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10th/11th cent. (above : left)

178. Kāleśvarī nī Naḷ—Sāsu stepwell—c. 10th/11th cent.





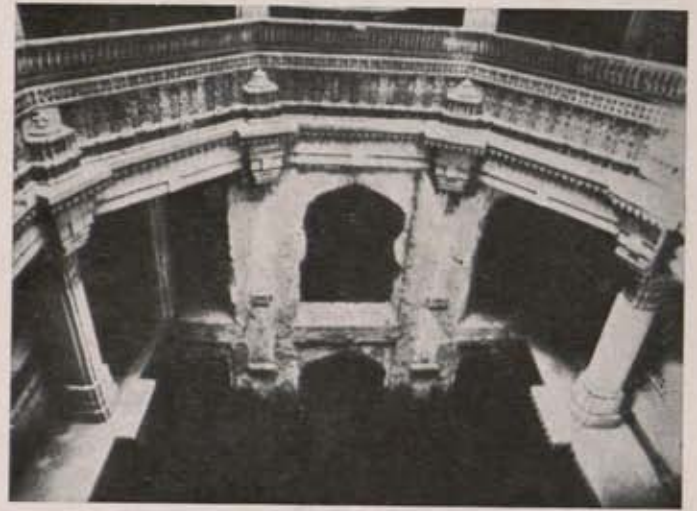
181. Aḍalaj—Rudābāi stepwell—A.D. 1499.

179. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent. (above : left)

180. Kāleśvarī nī Na|—Sāsu stepwell—c. 10th/11th cent.
(above : right)



182. Aḡālaj—Rudābāi stepwell—A.D. 1499.



185. Aḍālāj—Rudābāī stepwell—A.D. 1499.

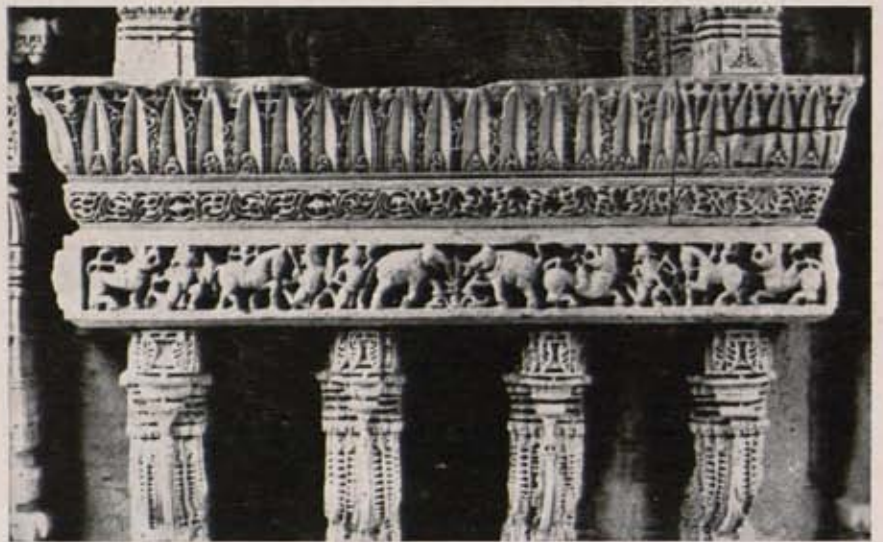
186. Aḍālāj—Rudābāī stepwell—A.D. 1499.

183. Aḍālāj—Rudābāī stepwell—A.D. 1499. (above : left)

184. Aḍālāj—Rudābāī stepwell—A.D. 1499. (above : right)

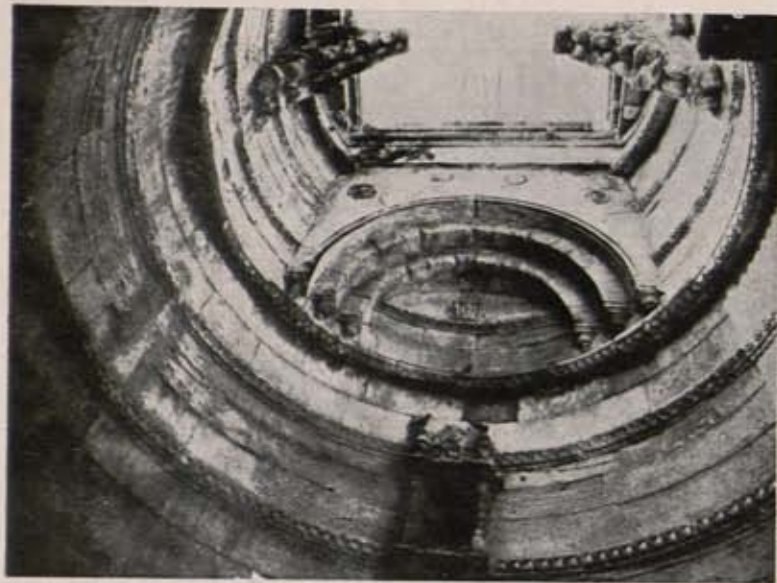


189. Aḡlāj—Rudābāī stepwell—A.D. 1499.



188. Aḡlāj—Rudābāī stepwell—A.D. 1499.

187. Aḡlāj—Rudābāī stepwell—A.D. 1499. (above)



←

190. Aḍālaj—Rudābāī stepwell—A.D. 1499.

193. Aḍālaj—Rudābāī stepwell—A.D. 1499.

↓

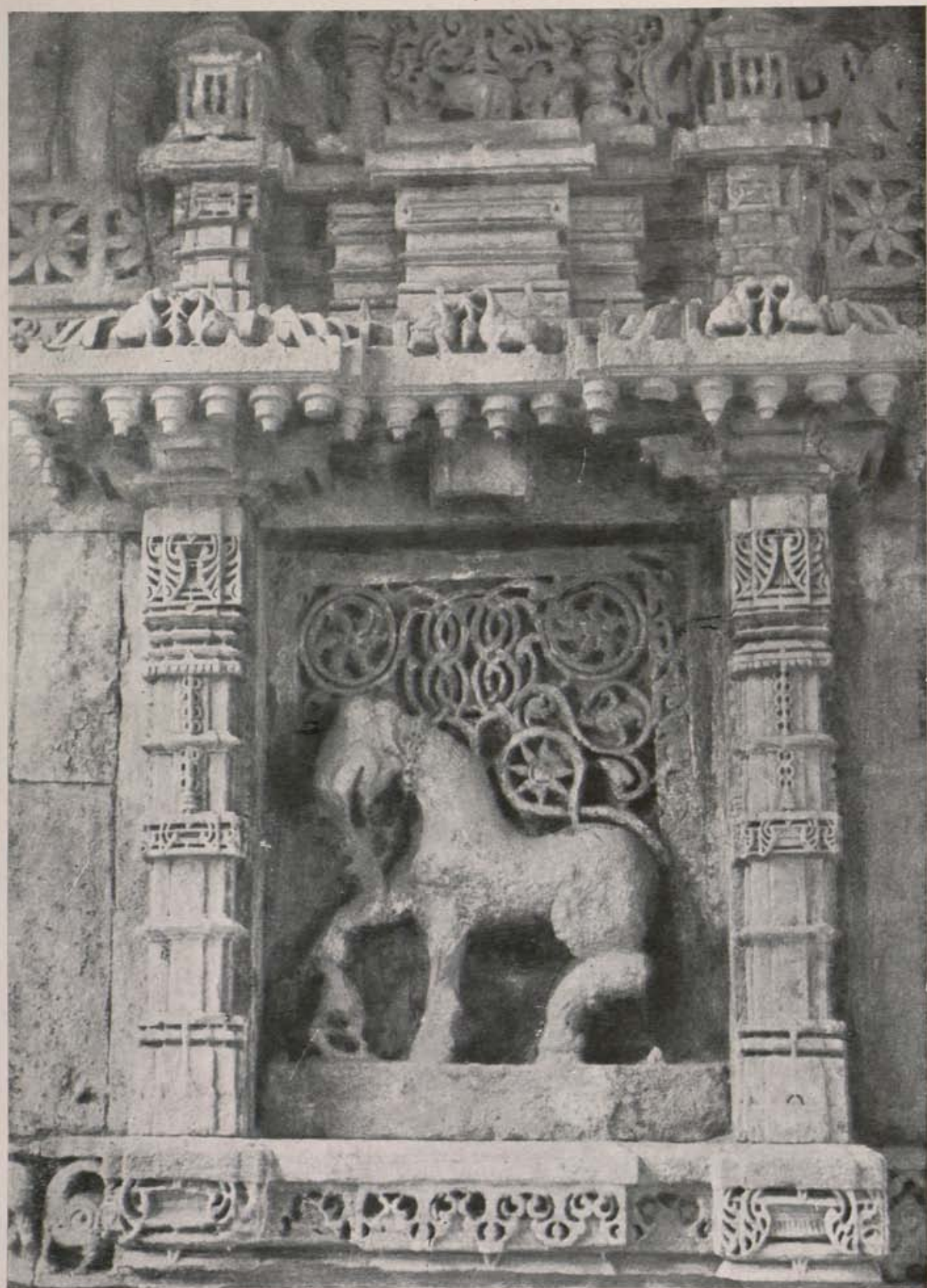


191. Aḍālaj—Rudābāī stepwell—A.D. 1499.

←

192. Aḍālaj—Rudābāī stepwell—A.D. 1499.





194. Aḡālāj—Rudābāī stepwell—A.D. 1499.



↑
196. Aḍālāj—Rudābāī stepwell—A.D. 1499.

195. Aḍālāj—Rudābāī stepwell—A.D. 1499.



←
197. Aḍālāj—Rudābāī stepwell—A.D. 1499.



198. Adalaj—Rudabai stepwell—A.D. 1499.



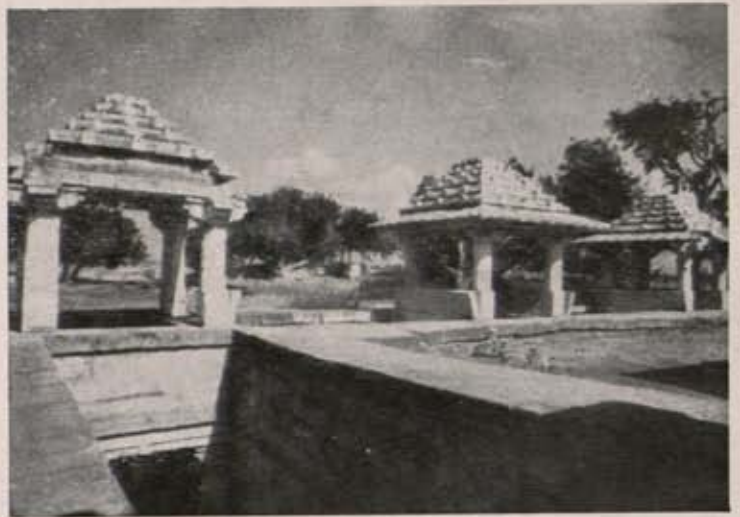
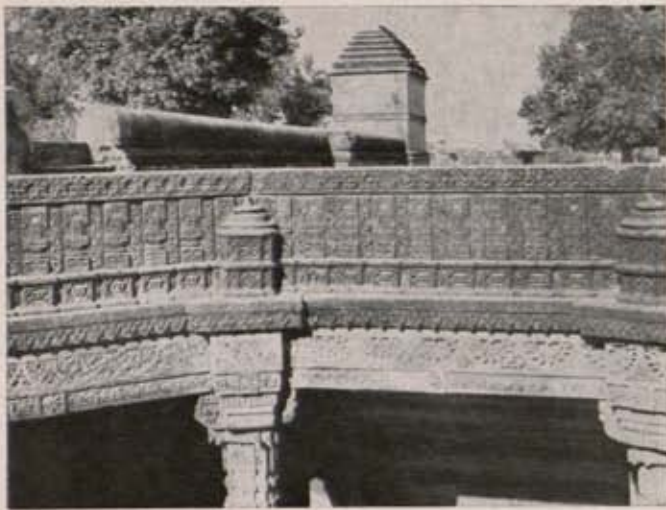
199. Adalaj—Rudabai stepwell—A.D. 1499.

200. Adalaj—Rudabai stepwell—A.D. 1499.



201. Adalaj—Rudabai stepwell—A.D. 1499.





204. Visavāḍa—Jñān stepwell—c. 13th cent.

202. Mandaropur—stepwell—c. early 16th cent. (above)

206. Visavāḍa—Jñān stepwell—c. 13th cent.

203. Visavāḍa—Jñān stepwell—c. 13th cent.

205. Visavāḍa—Jñān stepwell—c. 13th cent. (above Middle)



209. Visavāḍa—Jñān stepwell—c. 13th cent.



210. Visavāḍa—Jñān stepwell—c. 13th cent.

207. Visavāḍa—Jñān stepwell—c. 13th cent. (above)

208. Visavāḍa—Jñān stepwell—c. 13th cent. (above)



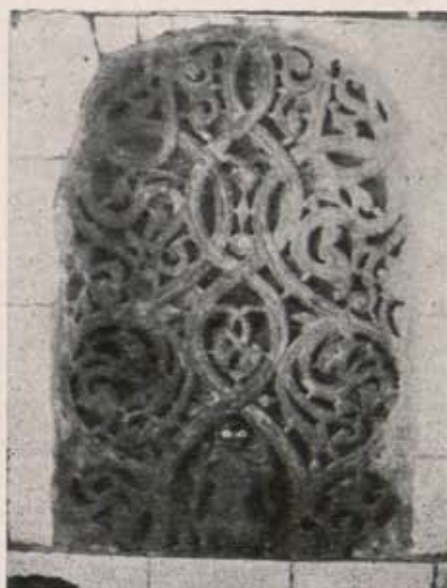
↑
212. Baroda - Navalakhi stepwell -
A.D. 1405.

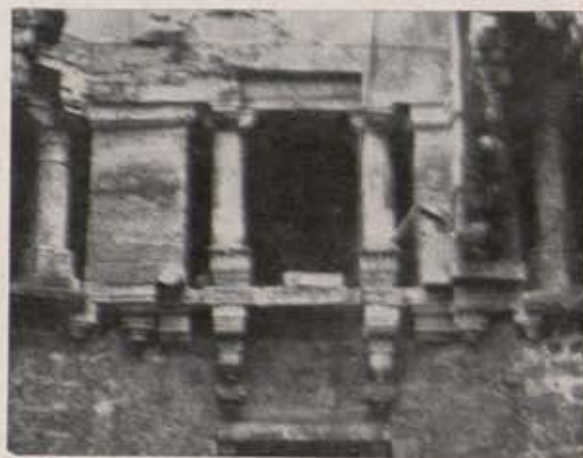
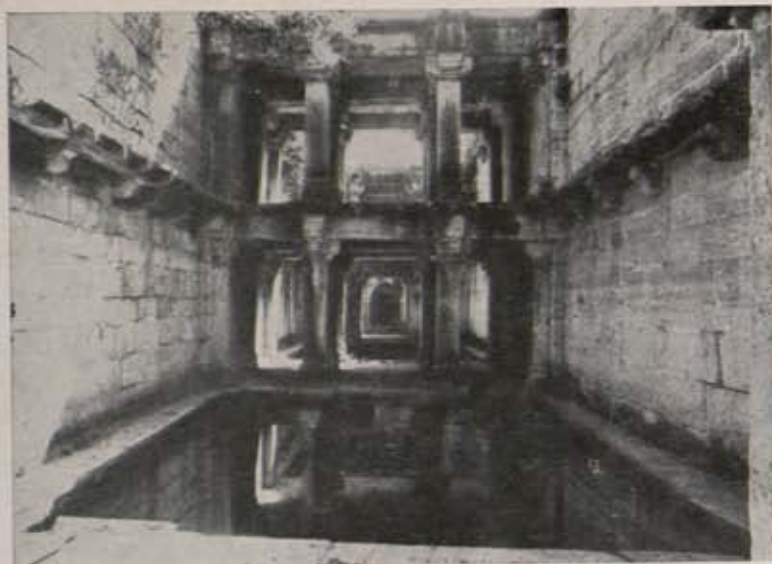
211. Baroda - Navalakhi stepwell -
A.D. 1405. (above)

214. Chatrāl - stepwell - c. 16th cent. →

215. Chatrāl - stepwell - c. 16th cent.
(right)

213. Baroda - Navalakhi stepwell -
c. A.D. 1405. (above : right)





↑
220. Vanthali— Rā Khengar stepwell—c. A.D. 1235.

←
219. Vanthali— Rā Khengar stepwell—c. A.D. 1235.

←
218. Vanthali—Rā Khengar stepwell—c. A.D. 1235.

217. Chatrāl—stepwell—c. 16th cent. (above : right)

216. Chatrāl—stepwell—c. 16th cent. (above : left)





222. Vanthali—Rā Khengar stepwell—
c. A.D. 1235.

223. Vanthali—Rā Khengar stepwell—
c. A.D. 1235. (above : left)



←

221. §Vanthali—Rā Khengar stepwell—
c. A.D. 1235.



↑
228. Vanthali—Rā Khengar stepwell—c. A.D. 1235.

224. Vanthali—Ra Khengar stepwell—c. A.D. 1235.
(top above)

225. Vanthali—Rā Khengar stepwell—c. A.D. 1235.
(Middle above)



226. Vanthali—Rā Khengar stepwell—c. A.D. 1235.

227. Vanthali—Rā Khengar stepwell—c. A.D. 1235.
(above)



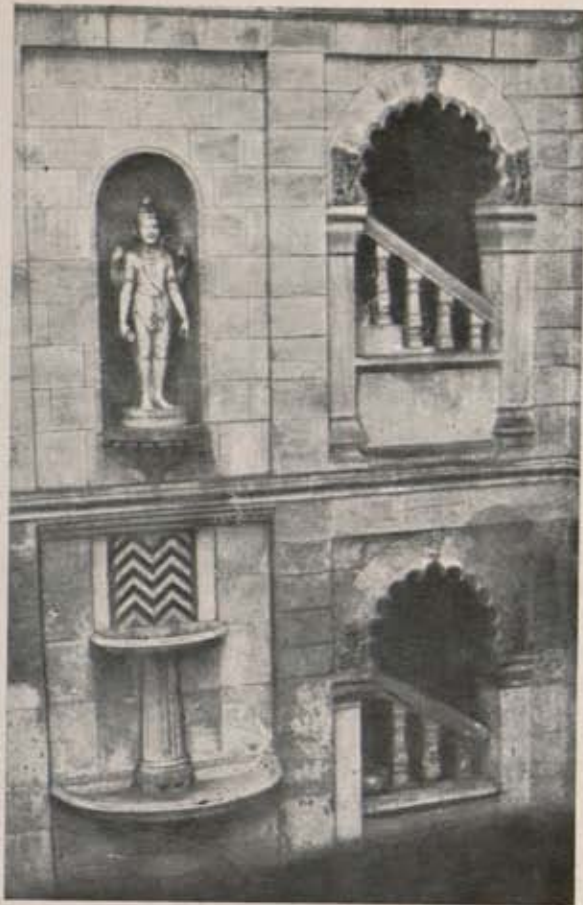
232. Vanthali—Rā Khengar stepwell—c. A.D. 1235.

233. Vanthali—Rā Khengar stepwell—
c. A.D. 1235.

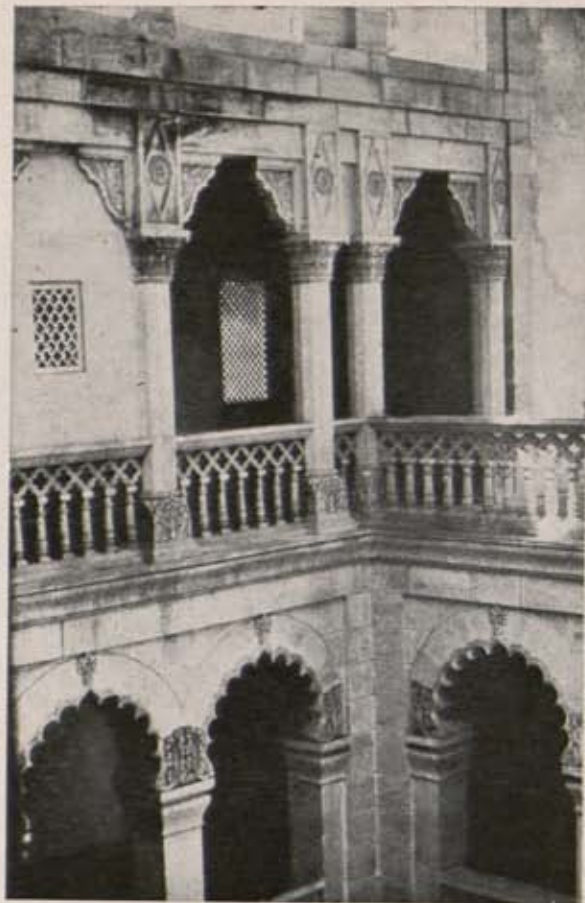
230. Vanthali—Rā Khengar stepwell—c. A.D. 1235. (above left)

229. Vanthali—Rā Khengar stepwell—
c. A.D. 1235. (above)

231. Vanthali—Rā Khengar stepwell—c. A.D. 1235. (above Middle)



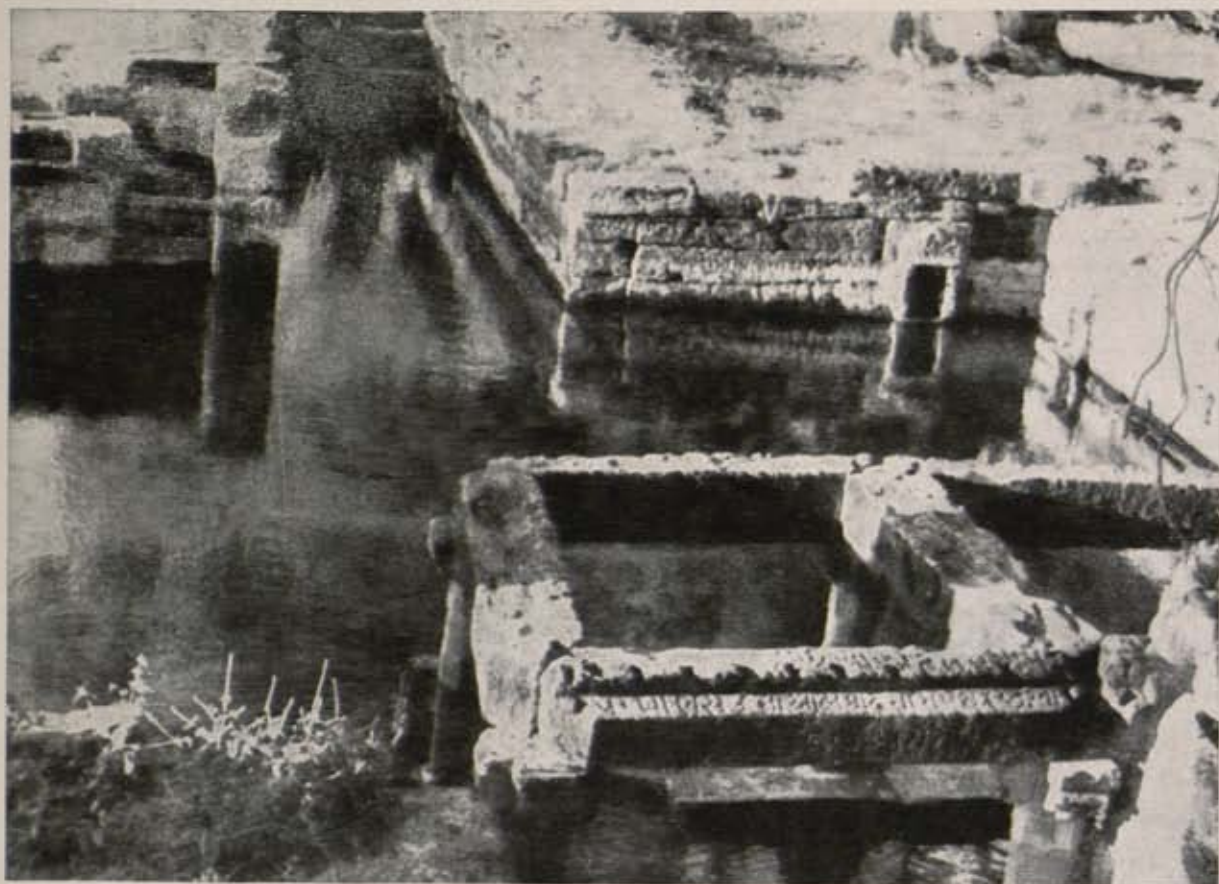
234. Wankaner—stepwell—c. 1935-40.



235. Wankaner—stepwell—c. 1935-40.

236. Mehmudābād—Bhramariā stepwell—c. early 16th cent. →





238. Chobari—Caumukhi stepwell—c. 12th cent.

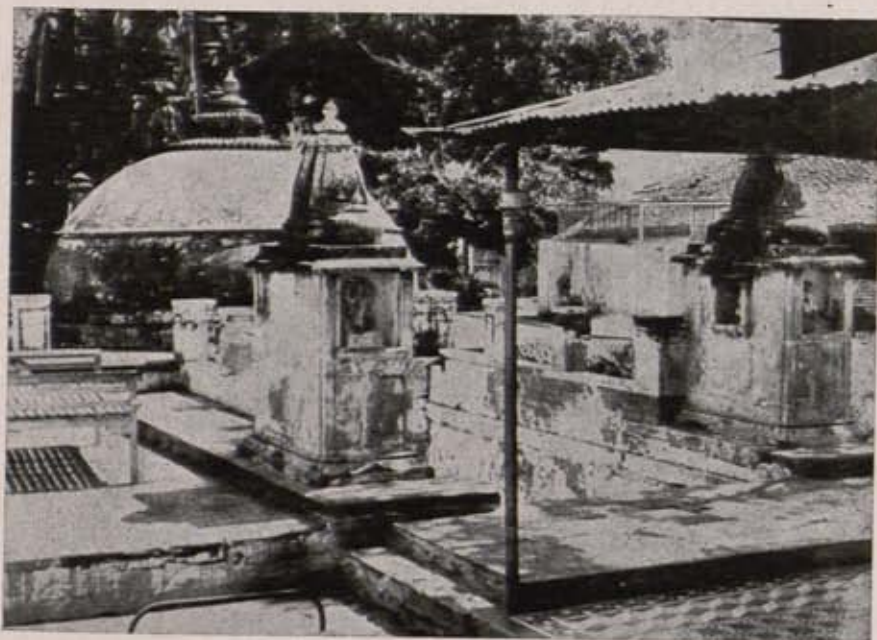


239. Chobari—Caumukhi stepwell—c. 12th cent.

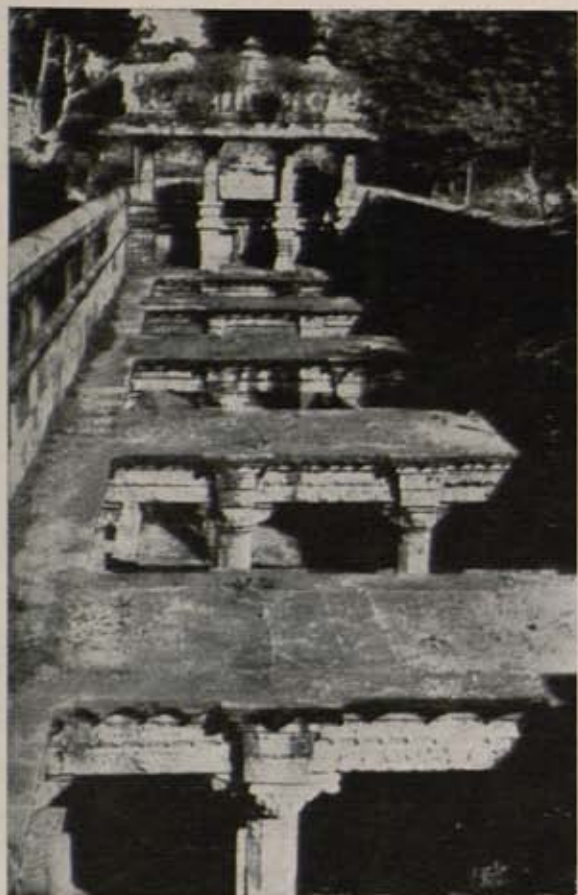
237. Chobari—Caumukhi stepwell—c. 12th cent. (above)



240. Pāvagaḍh—Helical stepwell.



241. Pāṭaṇ—Sindhvāī Mātā stepwell—A.D. 1633.

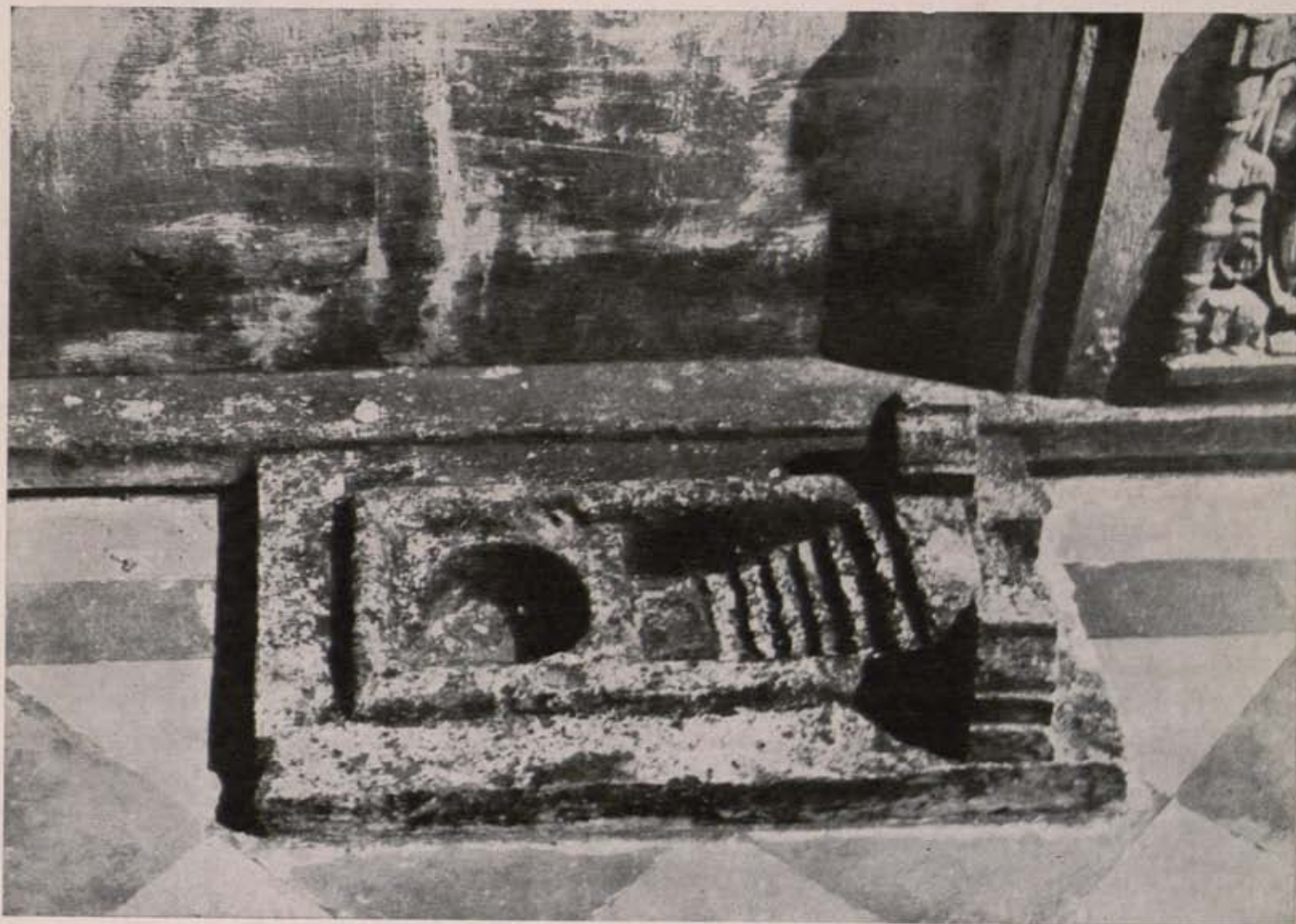


↑
242. Pāṇ —Bahadur Singh stepwell—c. 17/18th cent.

244. Mādhāvpur, Kutch—stepwell—c. 1880.
(above right)

243. Morbi—Jīva Mehta stepwell—c. 16th/17th cent. →

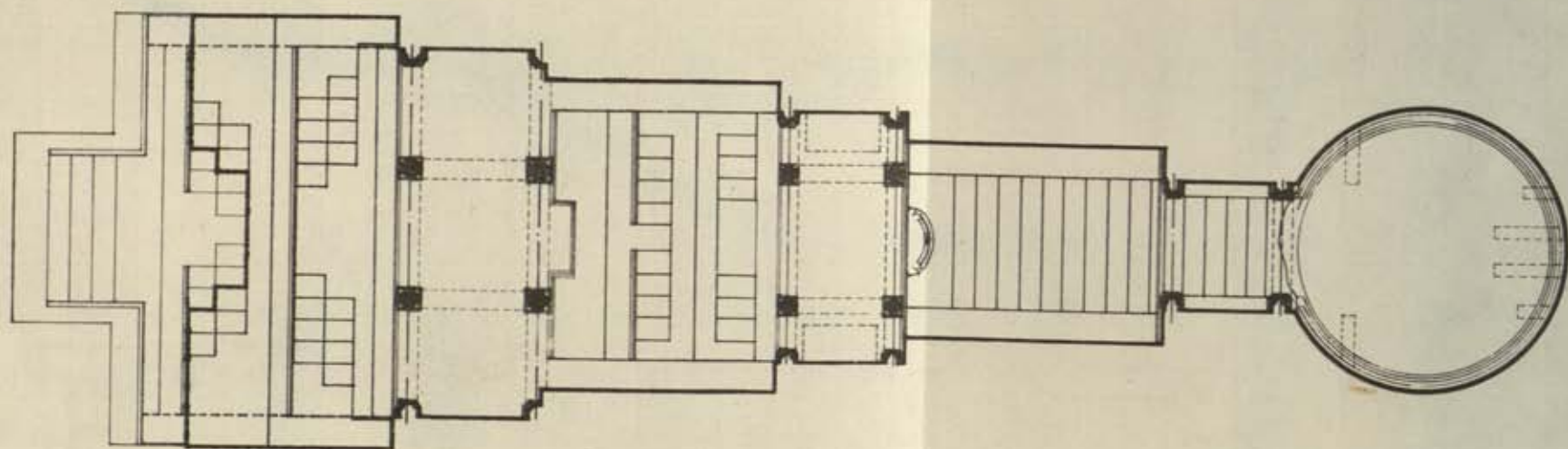
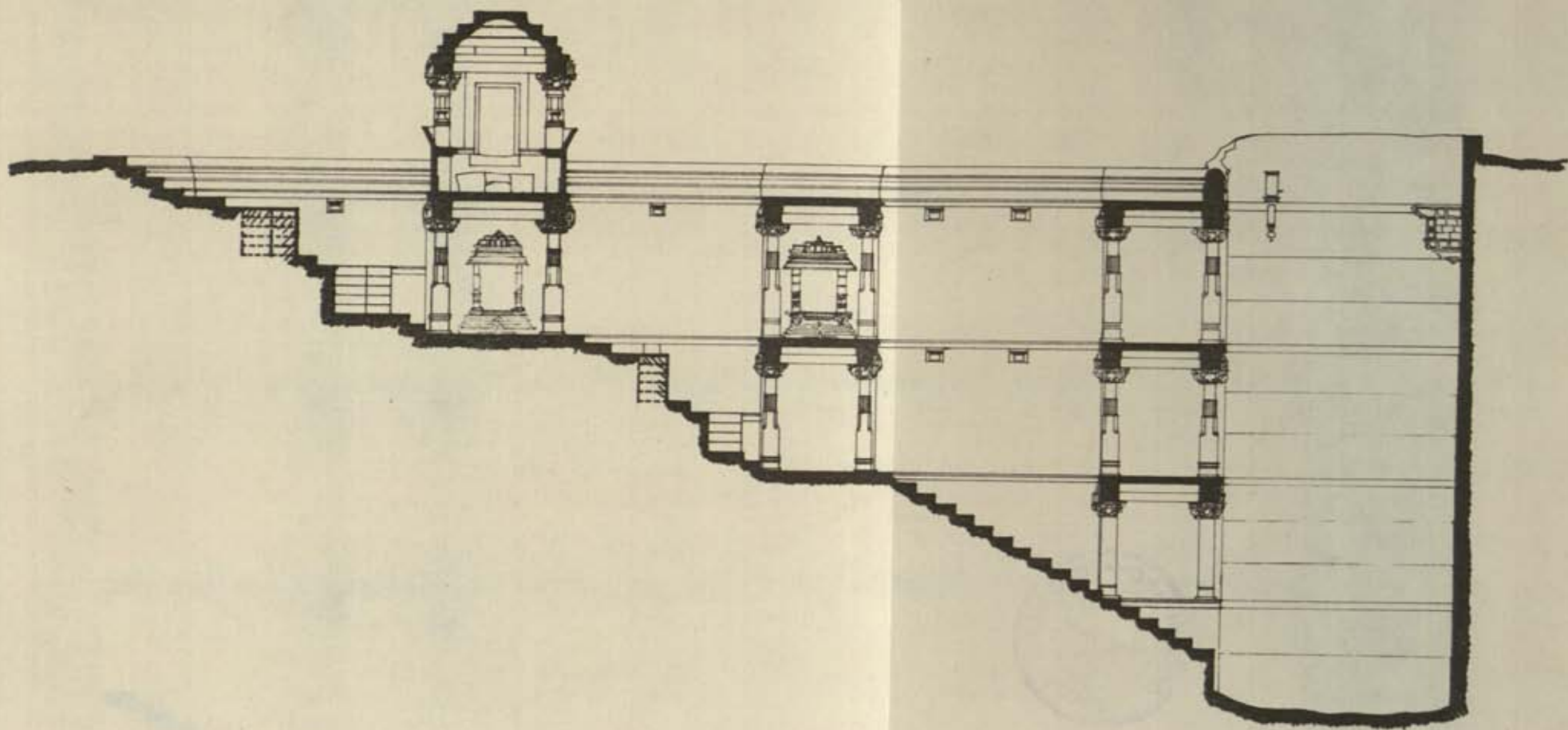




245. Mt. Śatruñjaya, Pālitānā—Miniature stepwell—c. 17th/18th cent.

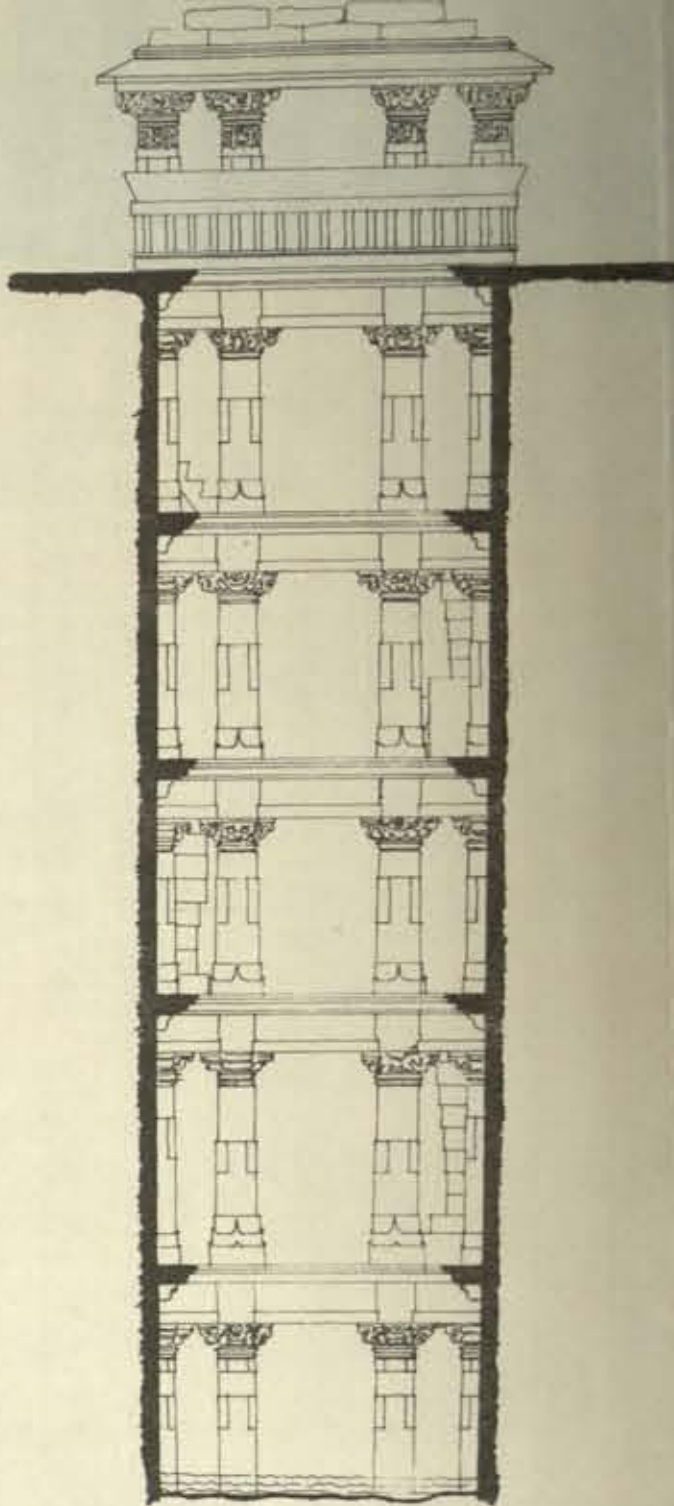
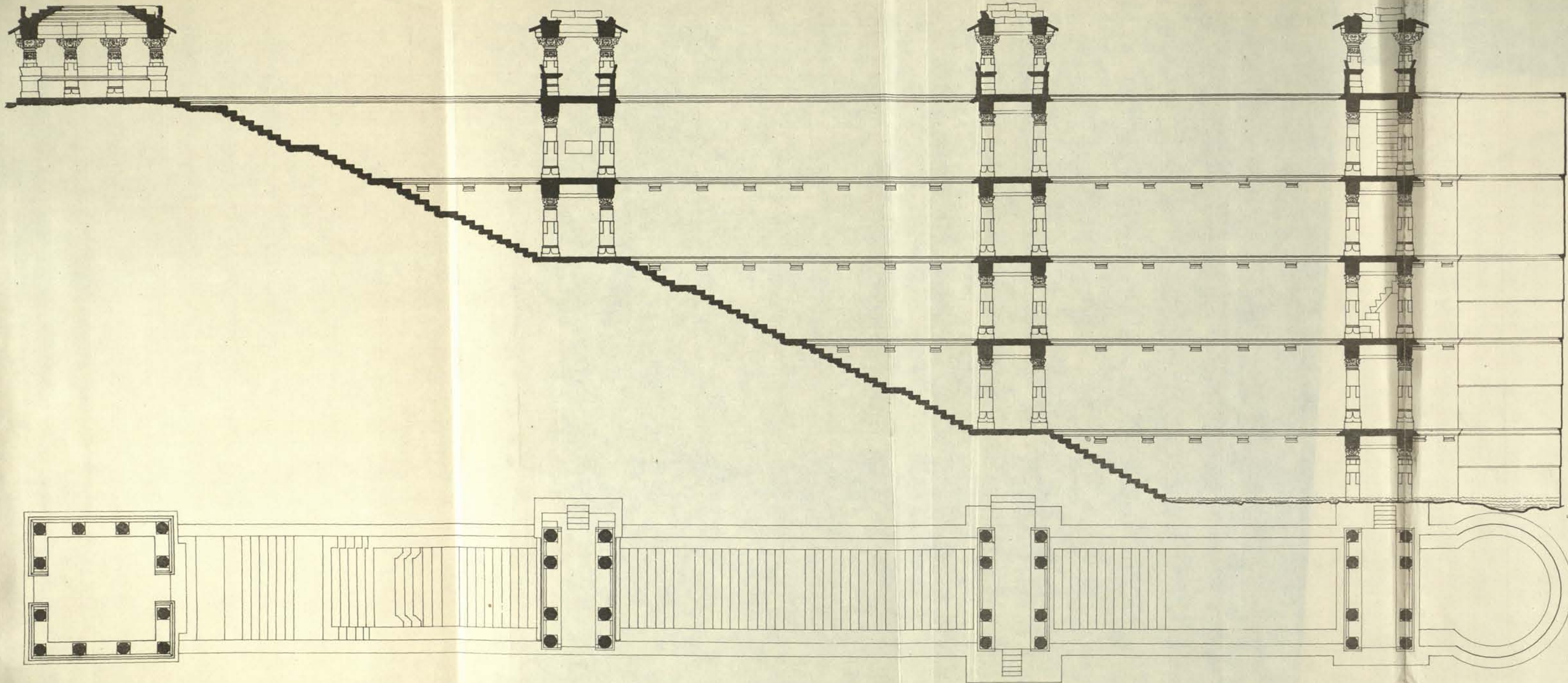
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DĀVAD - ĀṆKOL MĀTA STEPWELL

1:50



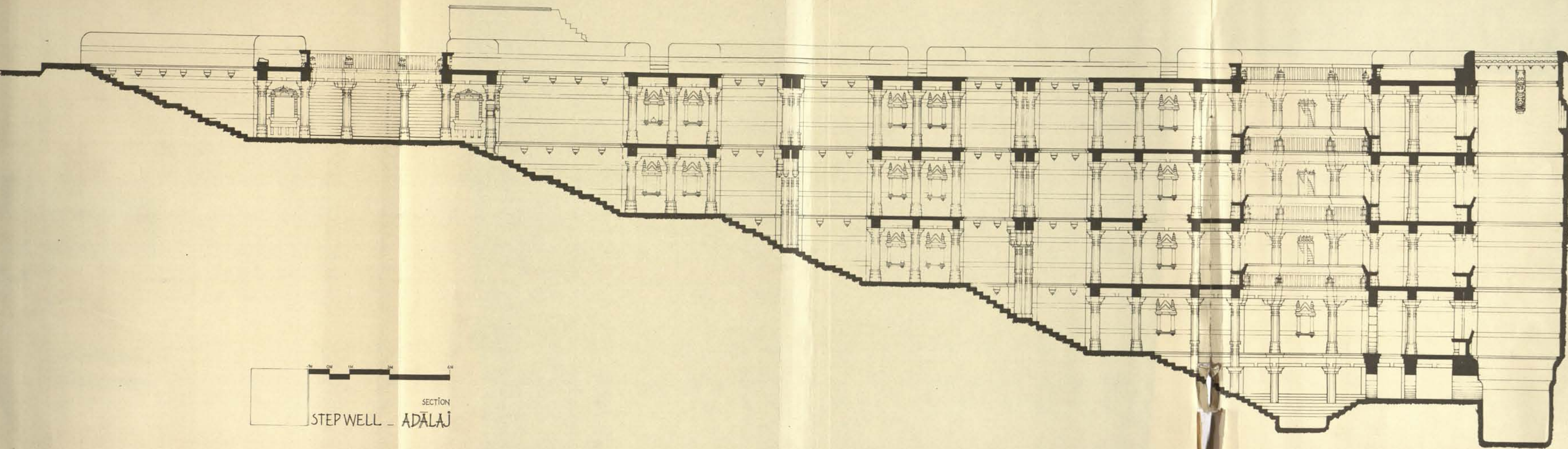
LONG SECTION

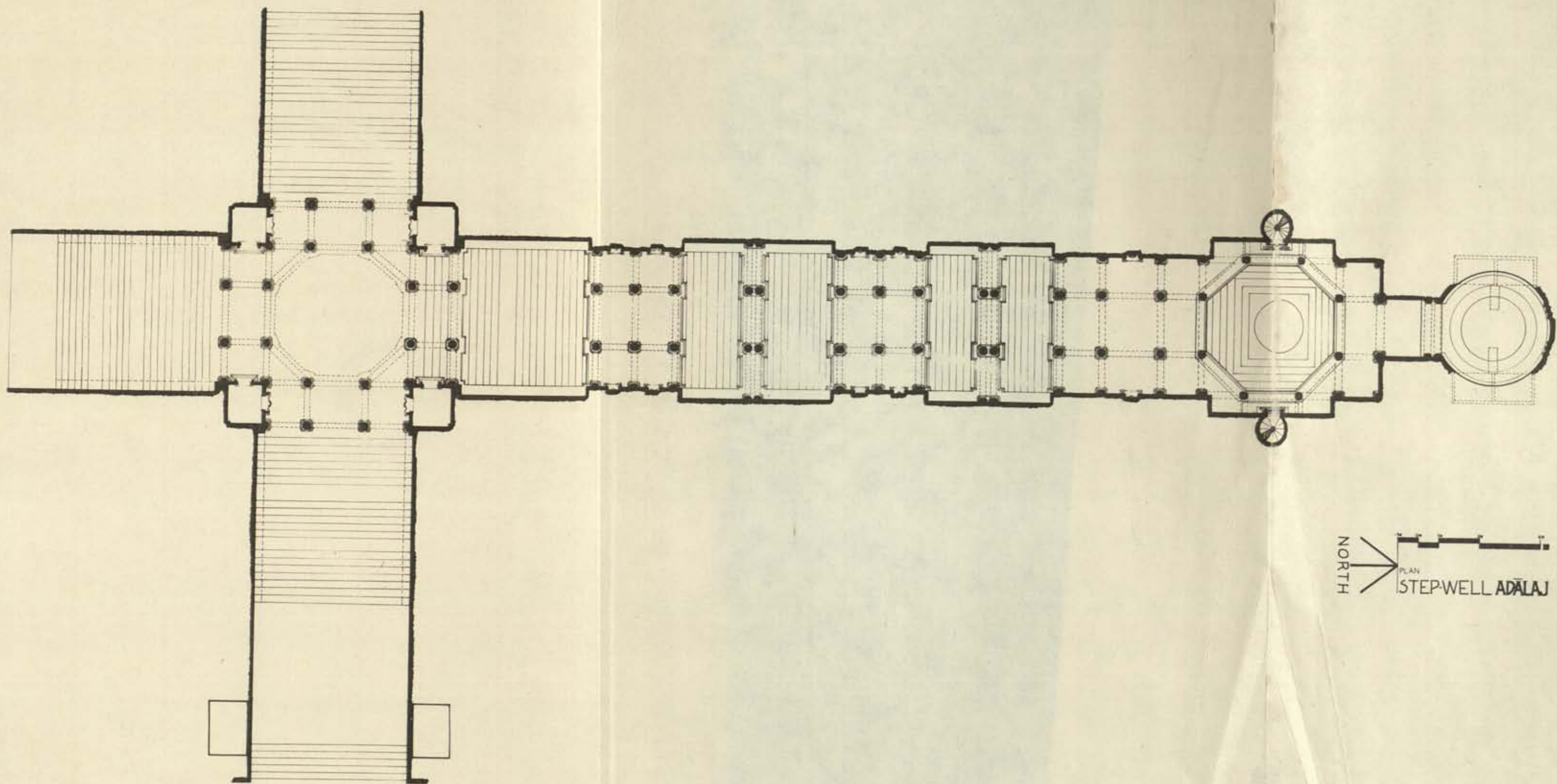
CROSS SECTION

PLAN

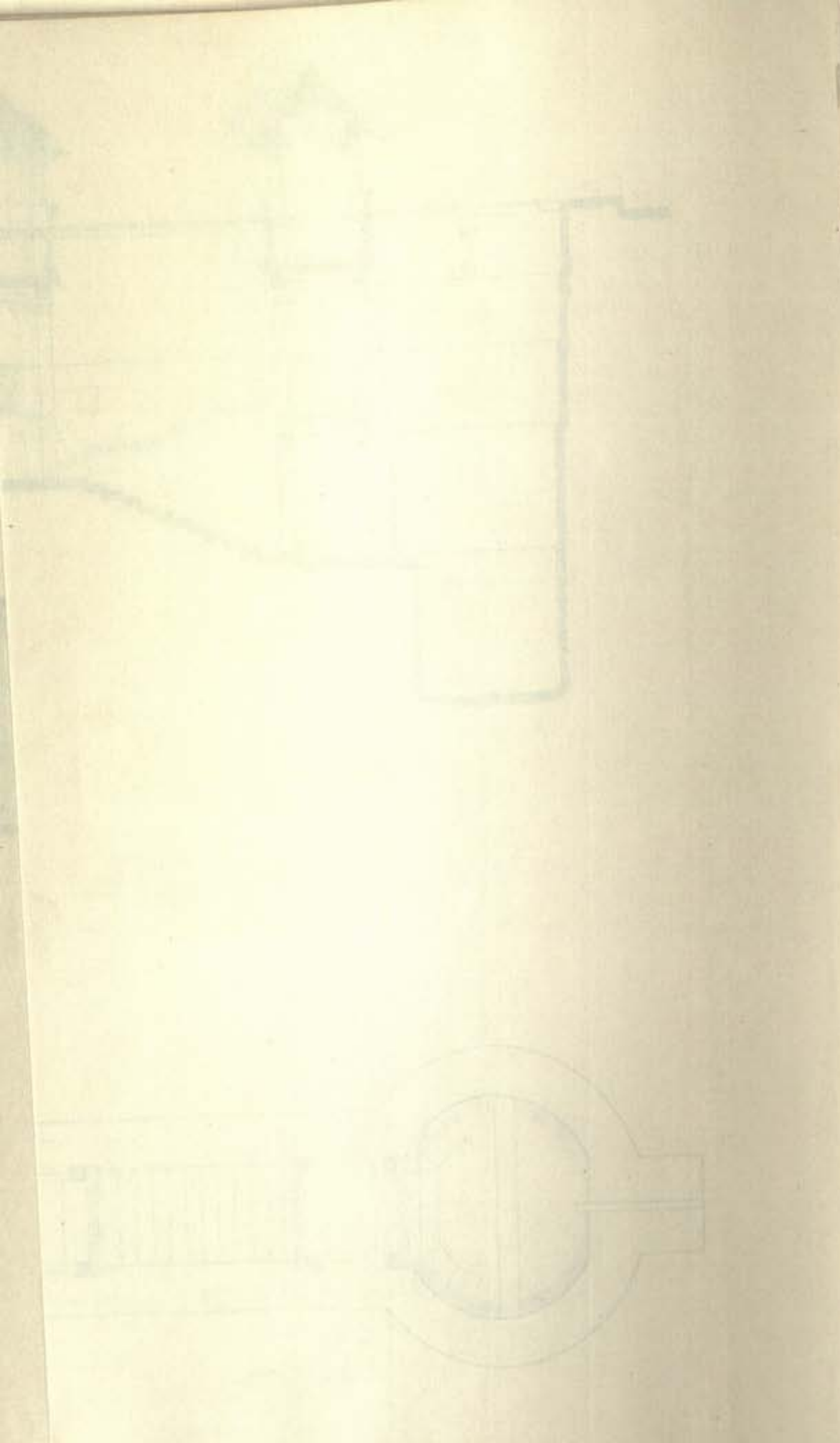
GHUMLI - VIKIA STEPWELL
1:50

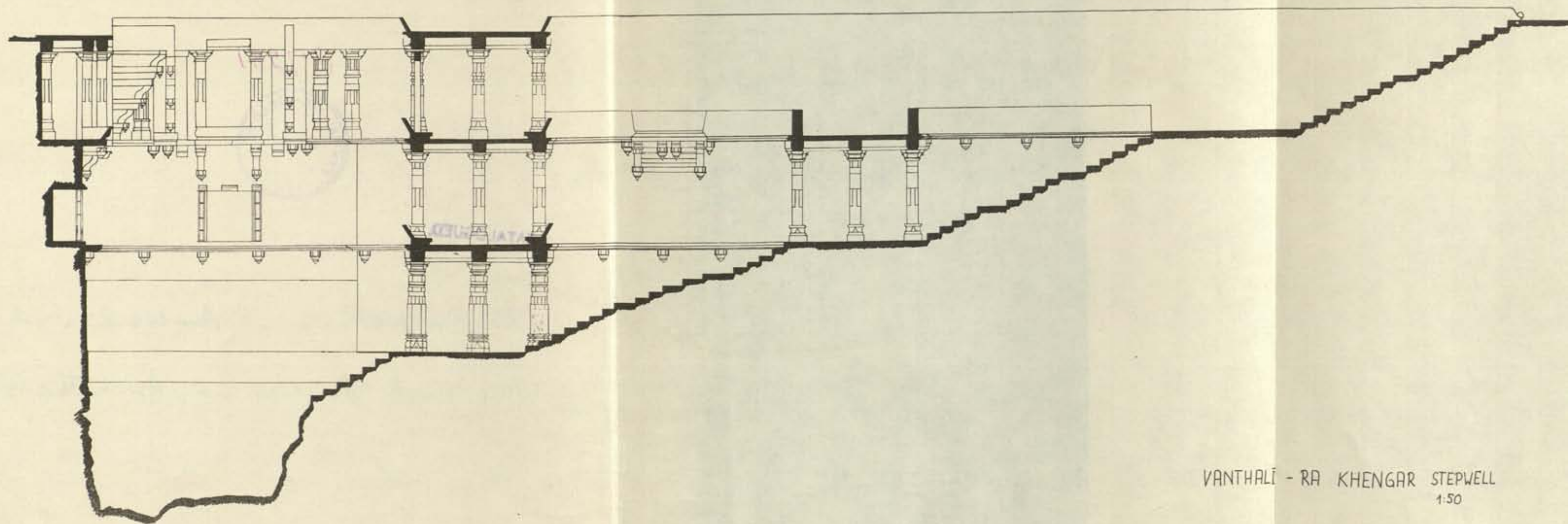
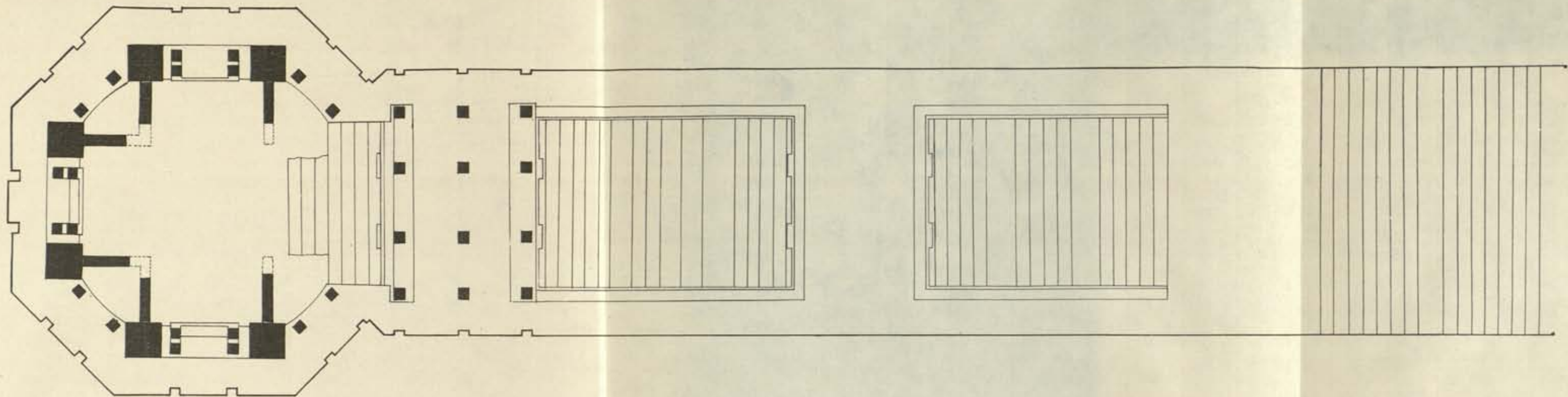
SECTION
STEP WELL - ADĀLAJ



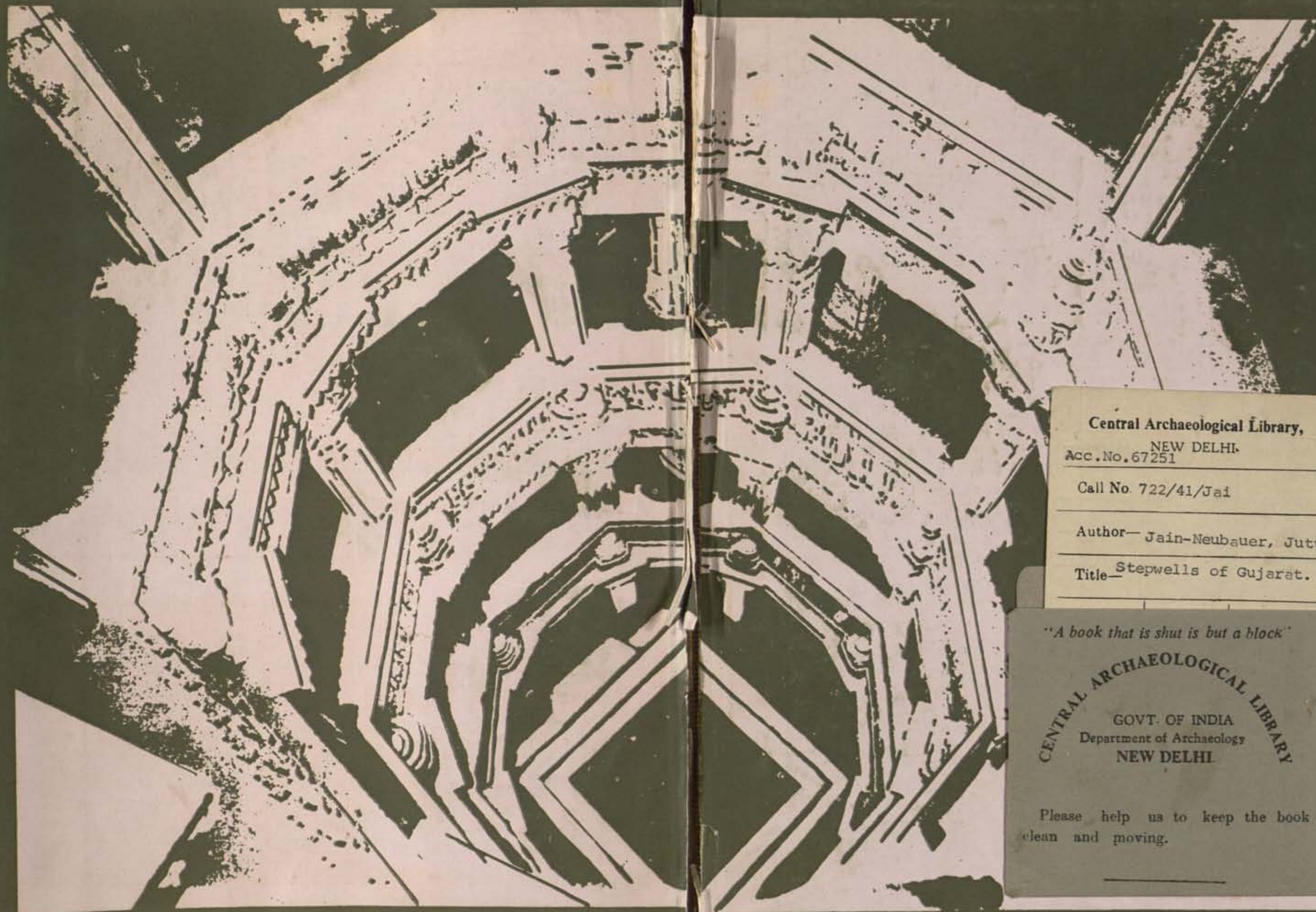


NORTH
PLAN
STEPWELL ADĀLAJ





VANTHALI - RA KHENGAR STEPWELL
1:50



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