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ARCHAEOLOGICAL RECONNAISSANCES IN NORTH-WESTERN INDIA AND SOUTH-EASTERN IRĀN

CARRIED OUT AND RECORDED WITH THE SUPPORT OF
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SIR AUREL STEIN

HONORARY FELLOW, FOGG ART MUSEUM, HARVARD UNIVERSITY

ANTIQUES EXAMINED AND DESCRIBED WITH
THE ASSISTANCE OF FRED. H. ANDREWS AND
ANALYSED IN AN APPENDIX BY R. L. HOBSON



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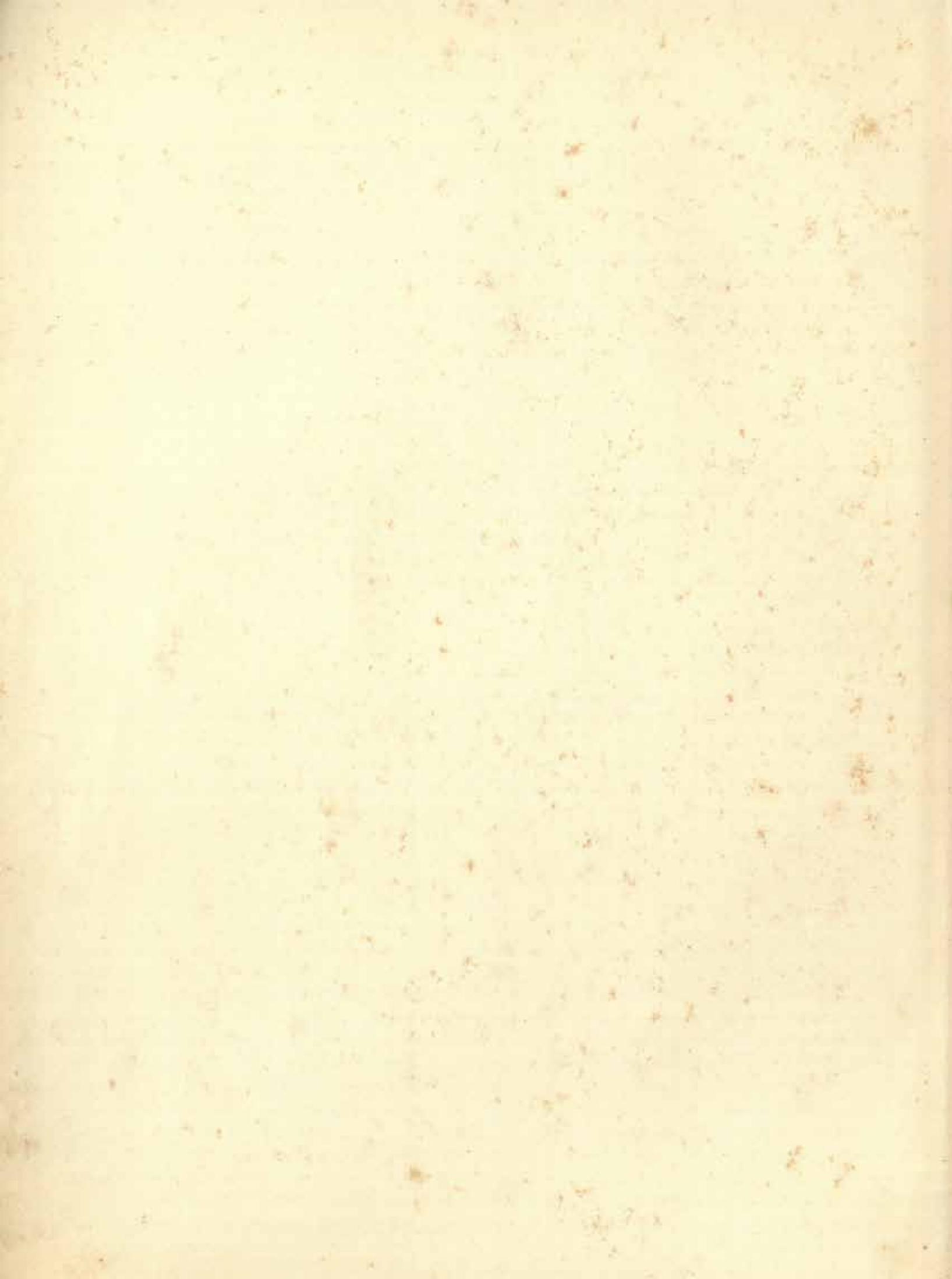
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TO THE MEMORY OF
PERCY STAFFORD ALLEN

PRESIDENT OF CORPUS CHRISTI COLLEGE, OXFORD

THE FRIEND AND GUIDE
WHOSE SYMPATHY AND EXAMPLE
BRIGHTENED MY LIFE AND
EASED ITS LABOURS
THIS ACCOUNT OF THE LAST OF ALL THE JOURNEYS
ON WHICH HIS THOUGHTS EVER ACCOMPANIED ME
IS INSCRIBED
IN AFFECTION AND GRATITUDE

Ms. A. 3.1.7. 2/18/19
Bibliography



PREFACE

THE purpose of this publication is to record the explorations, mainly archaeological but intended also to serve geographical interests, which generous help received from a fund of Harvard University, supplemented by a grant from the Trustees of the British Museum, enabled me to carry out during the years 1931-3. The fund was raised at Harvard University at the beginning of 1930, chiefly through the efforts of Professor Paul J. Sachs, Associate Director of the Fogg Art Museum. They were made after an invitation received from the President of Harvard University at the suggestion of my friend Mr. C. T. Keller had enabled me to deliver a course of lectures at the Lowell Institute on the three Central Asian expeditions which I had carried out under the orders of the Government of India between 1900 and 1916.¹

The fund was primarily intended to enable me to resume those explorations in Chinese Turkistān, and to extend them eastwards. But it was provided that it should be available also for whatever archaeological labours might be undertaken by me elsewhere in Asia. Professor Sachs kindly charged himself with the administration of the fund on behalf of Harvard University. For the unfailing consideration and help he kindly extended to me and for his ever encouraging friendly interest in my efforts I wish to record here my feelings of deep gratitude.

After the Trustees of the British Museum had, at the recommendation of Sir Frederic Kenyon, then Director of the Museum, been pleased to offer a contribution approximately equal to one-seventh of the Harvard fund, I proceeded in the spring of 1930 to Nanking in order to secure the permission of the Central Chinese Government for the proposed explorations. The effective help kindly offered by Sir Miles Lampson, H.B.M. Minister, made it possible, after full explanations had been furnished as to their object, to obtain the issue by the Chinese Ministry of Foreign Affairs of a passport authorizing me 'to trace and investigate ancient remains in Hsin-chiang and Inner Mongolia'.

After completing needful practical preparations I started from Kashmīr in August 1930. But, before the Chinese border on the Pāmīrs was reached, unscrupulous nationalist agitation had forced the Nanking Government to

¹ These lectures, amplified in parts, have been published in *On Ancient Central Asian Tracks. Brief Narrative of Three Expeditions in Innermost Asia and North-Western China* (Macmillan & Co., Ltd., 1933).

adopt an obstructive attitude. The objection raised to my entry into Chinese Turkistān was removed through the intercession of Sir Miles Lampson. But obstruction was subsequently continued by means of dilatory tactics on the part of the provincial authorities and evasive proceedings at Nanking. An account of the difficulties put in the way of useful work has been furnished by me in a letter published in *The Times* of July 16th, 1931. As it is reproduced below in Appendix B, I content myself here with quoting its last paragraph:²

'Perhaps the time may not be too distant when competent Chinese scholars will be prepared to recognize that researches bearing on the cultural past of their country have suffered by the obstacles which unjustified agitation has raised against continued work of a *confrère* who has done as much as any one to throw light on the great and beneficent part played by ancient China in the history of Central Asia.'

Recognizing the serious loss of time and effort involved in further struggle against systematic obstruction, I had, by March 1931, while making my way once more round the Tārīm basin, taken initial steps towards the realization of an alternative plan, kept in view from the first. This contemplated archaeological explorations in south-eastern Īrān. Their chief object was to extend the operations by which I had, in the cold weather seasons of 1926-7 and 1927-8, succeeded in tracing and examining many ancient sites, mainly prehistoric, widely scattered through British Balūchistān and Makrān, into neighbouring regions of southern Persia.³ There was reason to hope that researches conducted on similar lines in parts of Īrān, as yet little known in their antiquarian and geographical aspects, might throw further light on the character and relation of those prehistoric civilizations of which my preceding explorations had brought to light plentiful relics between the south-eastern border of Persia and the hill tracts overlooking the Indus Valley.

My application, intended to secure from His Iranian Majesty's Government the desired permission and facilities, specially indicated the need of trial excavations. It also contained the request that, subject to the conditions laid down in the recent law concerning antiquities in Īrān as regards the ultimate disposal of finds, permission might be granted for the temporary transfer to London of all objects recovered in the course of trial excavations for the purpose of their detailed examination there within reasonable limits of time. On the recommendation of Sir Evelyn Howell, then Foreign Secretary to the Government

² See Appendix B, pp. 248 sqq.

³ For a detailed record of these explorations see my reports, *An Archaeological Tour in Waziristān*

and Northern Balūchistān, and *An Archaeological Tour in Gedrosia* ('Memoirs of the Archaeological Survey of India', Nos. 37 and 43, 1929 and 1931).

of India, my application was transmitted by the British Foreign Office to Tehrān, with the very gratifying result that after my return to Kashmīr I learned, at the close of October 1931, of the requested permission having been granted by the Iranian Government.

After the preceding experience on Chinese ground I felt bound to appreciate doubly the enlightened spirit in which the Iranian Ministries of Foreign Affairs and Public Instruction had readily acceded to my requests. For this generous consideration and all the facilities accorded to me, both in the course of my journeys and subsequently with regard to the materials collected, I wish to record here my deep-felt gratitude. For effective help towards the favourable consideration of my application my warm thanks are due to Sir Reginald Hoare, H.B.M. Minister at Tehrān, and to Monsieur A. Godard, Directeur des Antiquités en Iran.

Before it became possible for me to start work in the field from the south-eastern corner of Persian Balūchistān a welcome opportunity offered for an antiquarian tour in the north of the Panjāb on ground of special attraction to me ever since my early service in that province. The main objects in view were the examination of two questions of ancient topography connected with Alexander's Indian campaign and a renewed visit to interesting old sites in the Salt Range described by Hsüan-tsang, the great Chinese Buddhist pilgrim. To Sir Geoffrey de Montmorency, late Governor of the Panjāb, I feel sincerely indebted for kind help towards the administrative arrangements which facilitated this tour.

Prolonged experience gained on all my Central Asian expeditions, as well as in the course of my work in British Balūchistān and elsewhere, had shown me the importance of adequate attention to all geographical facts bearing on questions of ancient settlements and their history. For their study reference to exact topographical information is essential, and as such was known to be unavailable for the greater portion of the area I wished to examine in Īrān, it was of importance to carry an accurate plane table survey along the routes followed by us. I therefore felt very grateful to the Survey of India Department when it agreed to depute with me an experienced Indian Surveyor in the person of Muhammad Ayūb Khān.

The results of the route surveys carried out by him under my direction with exemplary zeal and care, often under trying physical conditions, are embodied in the accompanying map-sheets. The drawing of these has been done with much care and skill by Mr. F. H. Milne, head draughtsman of the Royal Geographical Society, who, where needed, has supplemented these surveys executed on the

scale of 4 miles to 1 inch by cartographical data drawn from the 'Maps of India and Adjacent Countries' published by the Survey of India on the same scale. The methods followed in the plane table work along our routes were the same as adopted during my travels in Chinese Turkestan.⁴ The extent of the survey work done on the journeys on Persian ground, of which the first took us from the extreme south-east of Persian Makrān through Balūchistān to Kermān, and the second thence south to Mīnāb at the mouth of the Persian Gulf and along its forbidding coast as far as Bushire, may be judged from the aggregate marching distances amounting to more than 2,400 miles. Muhammad Ayūb Khān's help proved equally valuable for the numerous plans of sites and ruins which had to be prepared.

On the first of those journeys and on the tours in the Panjāb which preceded it, I enjoyed the advantage of a competent scholarly assistant in the person of Dr. C. L. Fábri, a zealous young archaeologist from the Kern Institute of Leiden University. Prepared by prolonged study of Indian antiquities under that distinguished Indologist, Professor J. Ph. Vogel of Leiden University, and gifted with a keen eye and skilful hand, Dr. Fábri rendered very useful help in supervising excavations, examining whatever objects they brought to light, and keeping notes of all that presented special interest. After our return from that journey to London he was engaged for five months at the British Museum on the arrangement of the collection and the careful site-marking of all the objects comprised in it, including thousands of ceramic remains, before he returned to his post at Leiden. It is earnestly to be wished in the interest of research that Dr. Fábri may be offered before long an opportunity of sharing in the direction of systematic excavations at some of the great prehistoric sites of north-western India, a task for which he is exceptionally qualified.

It has been my aim in this volume to offer a comprehensive account both of the work in the field and of the antiquities recovered in the course of it. As my time has since been occupied on two fresh expeditions I should not have been able to prepare this account but for the devoted expert assistance received from my old artist friend Mr. F. H. Andrews, in the study and description of the antiquities temporarily deposited at the British Museum. Those who have had occasion to consult his descriptive Lists of Antiques in the volumes of *Ancient Khotan*, *Serindia*, and *Innermost Asia* will be able to assess the great value of the pains-

⁴ Regarding these methods cf. my *Memoir on Maps of Chinese Turkestan and Kansu* (Records of the Survey of India, vol. xvii, 1923), pp. 3 seqq. The spelling of local names generally conforms to the system followed in those maps. In the case of pure Arabic names the addition of diacritical marks, in accordance with the system of transcription adopted by the International Congress of Orientalists, has, however, appeared advisable.

taking help rendered by him once more on a similar task. Writing most of my account far away from London, I have had to depend for details of objects very largely on Mr. Andrews's careful descriptive notes. In the same way the troublesome work of selecting and arranging specimens from the multitude of small objects for reproduction in plates has been mainly done by him. The illustrations of pottery shapes in Plates XXXI-XXXIV are from his hand. I feel very grateful for the kindly fate which for fully 46 years past has given me a most willing and experienced helpmate in my antiquarian tasks in the person of Mr. Andrews.

To the authorities of the British Museum I am indebted for the safe accommodation of the collection while under examination and for the manifold facilities granted in connexion therewith. Among these I must gratefully mention the opportunity afforded by Mr. R. L. Hobson, Keeper of Ceramics, for an exhibition, arranged in 1934, of representative specimens of antiques gathered on the journeys of 1931-3 and previously in British Balūchistān. I am greatly obliged to him also for the favour of having brought his expert knowledge to bear on the early Muhammadan pottery collected on those journeys and having contributed a lucid analysis of the prevailing types in Appendix A. Mr. J. Allan, Keeper of Coins, has given kind help by the determination of coin finds on this as on former occasions.

To my friend Mr. C. E. A. W. Oldham, late I.C.S., I am greatly indebted for a helpful revision of my text, and to the Oxford University Press for the care bestowed on its printing and on the illustrations. The faithful reproduction of objects in three-colour plates is due, as in the case of all former publications of mine, to Messrs. Henry Stone and Son, Banbury. Last, but not least, I must record my special obligation to Messrs. Macmillan and Co. for the very generous way in which all my requests concerning this publication have been met by them.

In concluding these introductory notes on the origin of my investigations and on the presentation of their results I may refer very briefly to the general character and scope of the labours which this report is intended to record. What had specially directed my attention to the field chosen for them was the fact that here, just as was once the case in the far-away Tārīm basin, a great area, largely desertic and little known in its geographical aspects, but of distinct interest because of its relation to important neighbouring regions, had so far remained archaeologically unexplored. As realized from the first, the disproportion between the vast extent of the ground to be searched and the limitations of time due to regard for my age and to other practical considerations was bound to

impose upon my work the character of reconnaissances. I am fully aware that the results thus secured cannot lead to final conclusions as regards those relations of civilization and intercourse which in prehistoric periods linked the Indus Valley with Irān and the region at the head of the Persian Gulf. But I hope that a full record of my investigations may help to stimulate and guide more detailed researches in the future.

AUREL STEIN.

CAMP, SENNEH, KURDISTĀN,

21 *June*, 1936.

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Fragments of decorated pottery from Old Hormuz and other Gulf Coast sites.
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LIST OF ABBREVIATED SITE-MARKS

Amir.	Tump-i-Amīrābād.	Kar.	Tump-i-Kharg.
Amra.	Amrawālī Ālī.	Kash.	Kashkuk.
B.	Bahūr.	Kat.	Katukān.
Bas.	Basōt.	Khar.	Tump-i-Kharg.
Bam.	Bampūr.	Khur.	Khurāb.
Bij.	Bijnābād.	Kuk.	Kukrānī.
Bur.	Būrārī (Bhēra).	Kun.	Pīr-kunār.
Bur.	Burchik (Mīnāb).	Kuns.	Kunār-sandal.
Ch. S.	Chāh Sardū.	Lal H.	Lāl Husain.
D. Shōr.	Darra-shōr.	Lesh.	Lēshtān.
Daiy.	Daiyir.	M.K.	Macharkhādī.
Dam.	Damba-kōh.	M.P.	Māri Panwān.
Daq.	Shahr-i-Dāqianūs.	Mad.	Madīna.
Dar.	Darūyi.	Mau.	Maulā.
Dbn.	Dambiān.	Mur.	Mūrti.
Dhal.	Dhalwālī Ālī.	Nab.	Nabī Shāh.
Dmn.	Dāmīn.	Nam.	Tump-i-Nāmurdī.
Dukh.	Qal'a-i-dukhtar, Kermān.	Nang.	Nangal.
Fan.	Fanūch.	Nur.	Nūrābād.
Fan. D.	Fanūch, Dambān.	Nur.	Nūrpurwālī Ālī.
Fan. Q.	Fanūch, Chihil-dukhtarān.	Pod.	Tump-i-Podu.
Fir.	Firūka.	Qas.	Qasīmābād.
G.P.	Srīgobindpur.	Qz.	Deh-i-qādī.
Geh.	Geh, Chihil-dukhtarān.	R.P.	Rattapind.
Gir.	Girjhak.	Rar.	Rariāla.
Goi.	Govindwāl.	Rat.	Ratwāl.
Gur.	Gurāzū (Mīnāb).	S. Miri.	Tappa-i-Sultān-Mīrī.
Gur.	Gurtāla (Shāhpur).	S.P.	Sabzpind.
Har.	Tal-i-Pīr, Haraj.	Sar.	Sardagāh.
Hathi.	Hāthīpind.	Sau.	Saulūyeh.
Haz.	Tump-i-Hazār-mardī.	Shd.	Shahr-darāz.
Hus.	Chāh Husainī.	Sik.	Sikandri.
Ibl.	Tal-i-Iblis.	Sur.	Tump-i-surkh.
Jal.	Jamālābād.	Sut.	Sutkagēn-dōr.
Jam.	Qalāt-i-Jamshīd.	Tah.	Tāhīrī (Sīrāf).
Kah.	Kahnuwān.	Tak.	Takkul.
Kal.	Tump-i-Surkh-qalāt.	Tar.	Tarīkistān.

CHAPTER I

ON ALEXANDER'S CAMPAIGN IN THE PANJĀB

SECTION I—ALEXANDER'S ALTARS AND THE COURSE OF THE BEĀS

RESUMED explorations within ancient Gedrosia formed the first object of the journey on which I had planned to start in the autumn of 1931. For this purpose my intention was to enter Persian Balūchistān from its extreme south-eastern corner, close to where my explorations in 1928 had brought me on the side of British Makrān. Adequate time had to be allowed for the Persian authorities to make arrangements about my escort, &c., before I could start on my journey in that outlying part of their territory but recently brought once more under effective political control. The interval thus afforded enabled me to take up the examination on the spot of two questions of ancient topography bearing on Alexander's Indian campaign which long before had attracted my attention. The opportunity was also used to visit several old sites in the adjacent parts of the north-western Panjāb containing antiquarian remains of interest from various points of view.

For the purpose of the present record it will be convenient throughout to follow the sequence of my movements. I shall therefore deal first with the short preliminary tour which antiquarian and practical considerations induced me to devote to an examination of the ground where Alexander's invasion into the plains of north-western India came to its end by the banks of the Hyphasis, the present Beās. It was here that the great Macedonian conqueror on his amazing progress through Asia was at last forced to turn back by the weariness of his hard-tried troops. This fact alone would suffice to invest the ground with much historical interest. But since all classical records of the campaign contain mention of the great tower-like structures, the famous 'twelve altars' which Alexander had erected to mark the farthest point of his advance,¹ exact determination of the site might claim distinct archaeological importance.

The indications to be gathered from the classical accounts as to the line followed by Alexander's army on the march from the Hydaspes or Jhēlum do not furnish sufficient topographical evidence to determine with even approximate

¹ For a complete synopsis of all classical references to Alexander's altars erected on the bank of the Hyphasis, cf. Anspach, *De Alexandri Magni expeditione indica*, 1903, pp. 81 sqq.

certainly the point where the Hyphasis was struck. Nor had any remains that could possibly be connected with Alexander's altars been traced by the time when the need for a systematic search of such remains was urged by the late Mr. Vincent Smith in the close analysis he devoted to Alexander's campaign in the first two editions of his *Early History of India*.² He had been led to look for the position of Alexander's camp on the Beās in that area where the river, after skirting the south-western foot-hills of Kāngra, bends to the south and emerges into the plain east of Gurdāspur.

When, in response to his appeal for close local inquiry, Mr. Shuttleworth, I.C.S., then Deputy Commissioner of Kāngra, made a search for any traces of those massive memorial altars in the area indicated, it proved fruitless. On communicating this negative result, as recorded in the third edition of Mr. Vincent Smith's work, Mr. Shuttleworth had taken care to call special attention to the considerable shifting which the course of the river had evidently undergone from the point where it leaves the foot-hills. He had justly pointed out that any such change in the bed of the Beās taking place since antiquity would suffice to account for the complete disappearance of structures once erected on its former bank.

This judicious observation, while affording an adequate explanation as far as the area specially suggested by Mr. Vincent Smith was concerned, could yet not dispose of the need of an examination of the ground farther down the river; for, as already stated, the available data do not allow of any definite conclusion as to which portion of its course Alexander's advance had actually reached. I accordingly decided to acquaint myself, as closely as the limited time available would permit, with the ground along the western bank of the Beās, from near its junction with the Sutlej to the point where its bed makes a bend towards the plain, turning away from the glacis of the foot-hills. While examining this stretch of ground, close on 70 miles long in a straight line, I could hope also to gather some archaeological evidence as to any change which the river's course might have undergone here since earlier times.

My short tour extending from the 10th to the 18th of November, 1931, was greatly facilitated by the arrangements made on my behalf by the local authorities under the orders which H.E. Sir Geoffrey de Montmorency, the late Governor of the Panjāb, had very kindly issued. During my brief stay at Lahore, the provincial head-quarters, I was joined by that keen young archaeologist Dr. C. L. Fábri, of the Kern Institute, Leiden, whose willing and very efficient assistance was to be enjoyed by me throughout the season's field work. There, too, my modest staff was completed by the arrival of Surveyor Muhammad

² See Vincent Smith, *Early History of India*², pp. 69 sqq.

Ayūb Khān, whose experienced and ever-willing help in topographical and other practical work had kindly been made available to me by the Surveyor General of India with the sanction of the Indian Government. Careful preceding study of the excellent 1-inch-to-the-mile maps produced by the Survey of India (Sheets 44. M. 3-6, 9; 43. P. 12) had already familiarized me with the characteristic features of the riverine ground along the present course of the Beās; but actual travel along its western bank would make them still more instructive.

The flood bed of the river is divided almost throughout into a network of channels. Though most of these are dry for a great part of the year, the width of the flood bed—as much as 3 miles in places—sufficiently indicates the volume carried by the river in the late spring and summer, when it is swollen by the melting of the snows in the mountains and by the rains in their season. Of the erosive power then exercised by its waters and the direction in which this asserts itself, striking evidence is afforded by the steepness of the banks overlooking the flood bed from the west. From above the junction with the Sutlej they rise all the way from about 30 to fully 100 feet in height, marking the edge of the elevated plateau-like ground which here divides the drainage of the Beās from that of the Rāwī. It is over this divide that the branches of the great Bārī Doāb canal taking off from the Rāwī are carried to spread fertility over the districts of Gurdāspur, Amritsar, Lahore, &c., between the two rivers. Incidentally I may mention that the Sobraon branch of this great canal system which runs almost the whole way parallel to the Beās and at no great distances from it, by the good roads leading along it and its distributaries, materially facilitated rapid inspection of the whole ground.

The line of Inspection Bungalows along the main canal provided convenient bases for long daily rides. These enabled us to visit the greatest portion of the right bank of the Beās all along the present course of the river from the village of Munda in the Taran Tāran Tahsīl to the vicinity of Harchowāl in the Tahsīl of Batāla. Thence towards Gurdāspur in the north the present main bed of the river turns away from the well-marked right bank so far followed. Farther on there intervenes a belt of low ground, largely marshy, right up to the great bend of the river in the vicinity of Mīrthal, which was the northern limit of our survey. Within this belt it was easy to recognize depressions marking more westerly beds which the river had followed at one time or another within a comparatively recent period. One of these is seen in the wide Kahnuwān marsh stretching for a distance of about 10 miles. The tendency of the Beās to shift its bed westwards was clearly attested elsewhere also by the evidence which both ocular inspection and the details in the map afforded.

Among the general topographical features observed on this tour none

impressed me more than the contrast between the elevated terraces on the right bank rising everywhere steeply over the flood bed, and the level flat of the low ground stretching away eastwards beyond it, unbroken as far as the eye with the aid of strong glasses could carry. The steepness of the cliffs bounding both the cultivated land and the ground occupied by the riverine villages to the west showed unmistakably how the current set against them at flood time. Similarly it was easy to see that this process of erosion was being materially aided by the constant succession of ravines, large and small, in which the drainage from the plateau-like ground descends to the river cutting through, and breaking up, the bank. The physical forces which account for the configuration of the ground on the right bank of the river could thus be studied with ease mile after mile as we rode along.

From this study on the ground a clear conclusion could be drawn as to the change which those forces at work during many centuries must have brought about in the riverine tract to the east. This conclusion was fully confirmed by reference to the detailed maps, which show an absolutely flat area stretching away as far as the towns of Jullundur and Dasūya and traversed from north to south by the winding bed of the West or Black Beih. A look at the one-inch sheets, as accurate here, no doubt, as I found them all along the ground visited, is sufficient to show that this bed together with the line of marshes accompanying it from about half-way between Jullundur and Dasūya and continuing it northward in the direction of the bend of the Beās, represents an earlier course of the river. The distance between the present course of the Beās and the one marked by the West Beih and those marshes varies from about 7 miles in the south to less than 2 where the bend of the Beās is approached.

Considering the absence of exact historical records and, as far as the maps show, of any remains such as mounds marking earlier riverine settlements, it is impossible to form any definite view as to the length of time since this westward shift of the Beās took place. But the absolute flatness of the intervening ground makes it appear very probable that the move was a gradual one and that the erosion accompanying it would result in the effacement of any artificial mounds, such as Alexander's altars, once standing by the river's old bank. And here it may conveniently be mentioned that an examination of the detailed map (Sheet No. 43. P. 12) showing the river's course between its bend and the debouchment from the hills suggests a similar shift having taken place there, in this case from south to north.

While to the east, antiquarian evidence is so far wanting that might permit us to gauge the extent of the river's movements within historical times, conditions have fortunately proved more favourable on the present right bank. Along this

bank there is to be found a series of small towns which before the advent of railways prospered from the river-borne traffic and the trade following roads leading across the river, before the construction of the Grand Trunk Road and the railway diverted most of this. These little towns, now deprived of their former importance and more or less languishing, are from south to north: Govindwāl, Vairowāl-Dārāpur, Srīgobindpur, Kahnuwān.

Local tradition, supported by the evidence of old mosques, Hindu shrines, and other structural remains, made it quite certain that these places dated back to Mughal times, if not somewhat earlier. The fact of the detailed maps marking mounds in their immediate vicinity supplied an additional reason for the close examination of these sites. This showed the mounds outside the small towns to be either so-called *āwas*, or artificial hillocks due to the prolonged accumulation of refuse from brick kilns, commonly found near old places in the Panjāb, or else natural outcrops of *kankar*, a limestone formation occurring widely in the northern portion of the Panjāb, and in frequent use for building purposes. But at almost all of these places and also near some others, mere villages by the bank of the river, it proved easy to trace debris strata of earlier settlements embedded in the ground. Erosion has partially disclosed them in the small ravines running down to the riverine flat.

Thus to the north-west of Govindwāl (Plan 1) an elevated area stretching for about one-third of a mile along the river bank was pointed out as the site of the old town which was sacked and burned down during Aḥmad Shāh Abdālī's invasion in the middle of the eighteenth century. Thin strata of debris, laid bare by erosion along the steep river bank to a depth of 8-10 feet, all contained plentiful potsherds. The decorated pieces (for specimens see Goi. 1, 2, Pl. 1) showed simple geometrical patterns, painted in washy black or incised, and more rarely moulded floral designs. All of this pottery could safely be attributed to medieval or later times, as could also the rare fragments of glazed ceramic ware. Half a dozen smaller mounds, rising 30-40 feet above uneroded ground to the south of the town, proved to be formed by the remains of kilns for burning bricks and pottery (Fig. 8). Here, too, the debris did not date back to any earlier period.

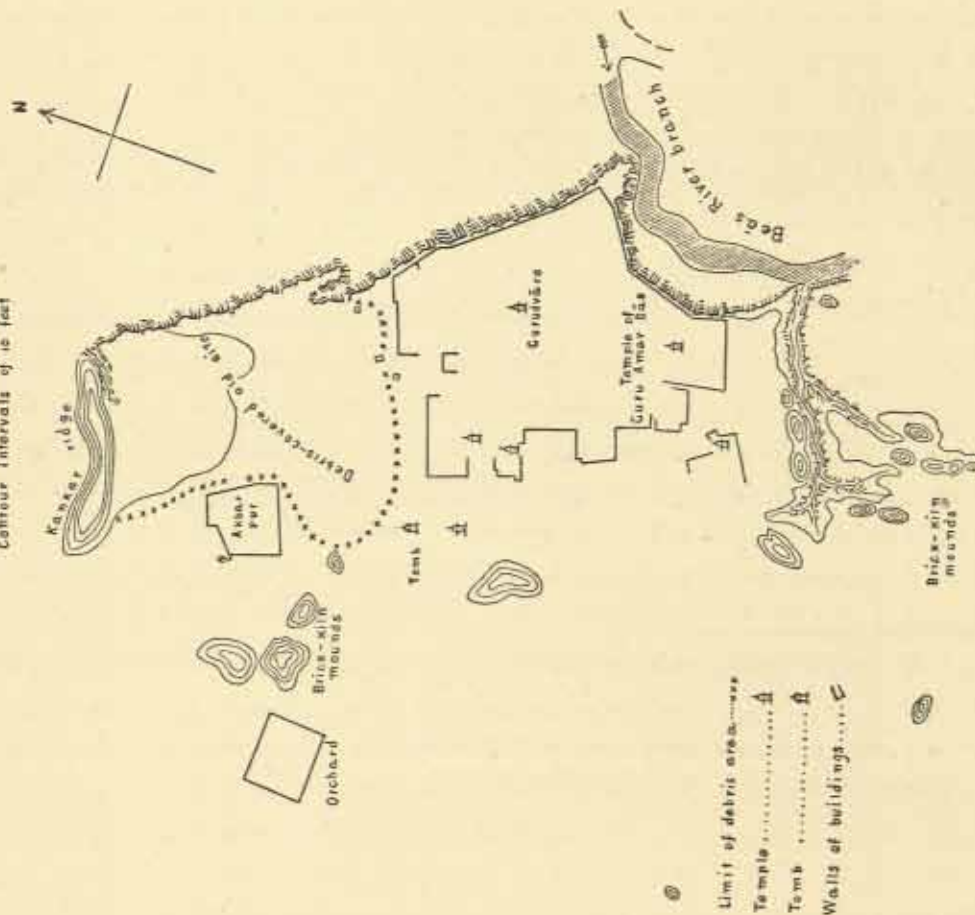
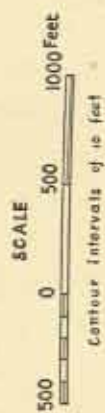
The mounds marked farther up the river near the large villages of Vairowāl, Dārāpur, Jalālābād, all proved to be either *āwas* of similar date and origin, or else natural *kankar* hillocks bearing decayed Muhammadan tombs and shrines. More instructive was what the close inspection of two old sites known locally by the term *tbē* showed us in the vicinity of the small walled town of Srīgobindpur. It lies some 16 miles above the point where the Grand Trunk Road and the main line of the North-Western Railway cross the Beās. Close to the south of the town there stretches along the much-eroded river bank the

'Rehilla Thē', a debris area thickly covered with potsherds just like a Turkistān *tati*. The strata of debris from 6 to 10 feet thick, which are exposed in the steep ravines furrowing the bank towards the river bed, proved clearly that the width of the site must have been greatly reduced by erosion. The plentiful pottery found here resembled that of Govindwāl in fabric and decorative style, a rich red wash being often used in bands, as in G.P. 1, 17 (Pl. 1). The fore part of a vigorously modelled figurine of a yak-like animal is seen in the fragment G.P. 3. The general decorative style of all this ware is one which from my experience elsewhere in the Panjāb may safely be attributed to medieval and later times. Neither here nor at the other sites examined along the Beās did I find pottery decorated with those neatly impressed patterns which my explorations along the Indian North-West Frontier have allowed me definitely to associate with the Buddhist period from the early centuries of our era onwards.

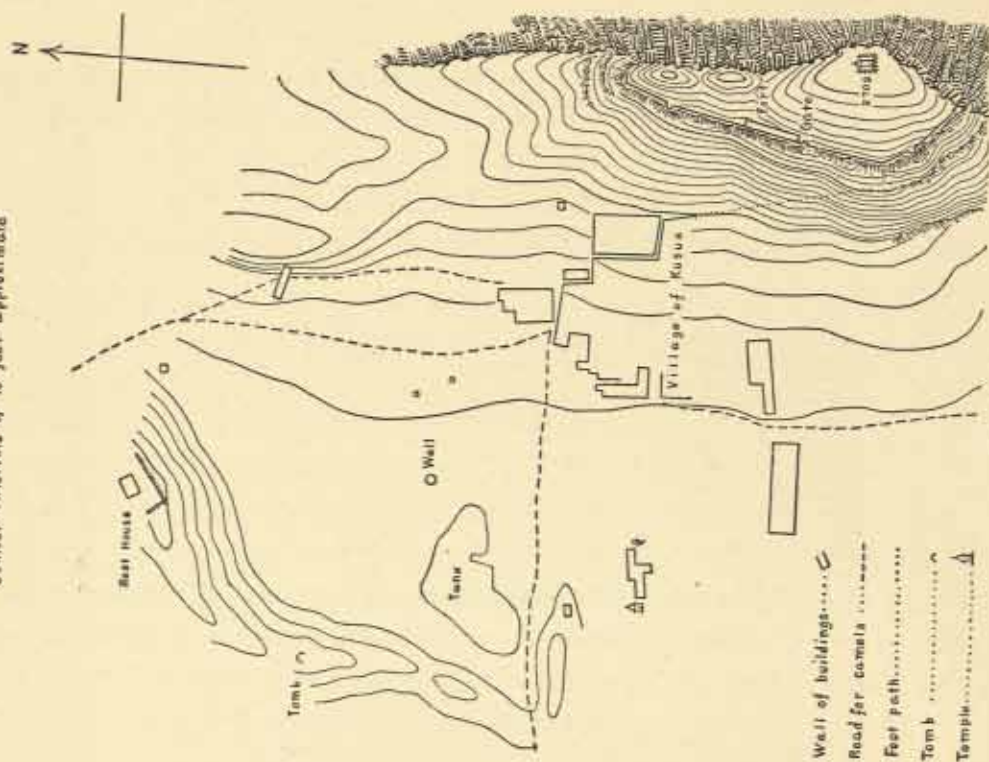
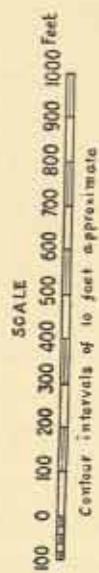
Exactly corresponding observations were made at a *thē* situated beyond the large village of Māri Panwān about two miles north of Srīgobindpur. Here, too, the area marking former occupation, and now measuring about 165 yards from north to south, has been greatly reduced by erosion. This has cut the ground into narrow tongues with sides falling off steeply towards the riverine flat. Apart from red pottery closely resembling that of Govindwāl there was found here a fine-textured mouse-grey ware. The decorated pieces, of which M.P. 27, 30, 32, 50, 56, Pl. 1, are specimens, show usually fine-lined incised patterns or else are cast in moulds. M.P. 3 appears to be the fire-bowl of a *buqqa*. Some figurines, like M.P. 2, of a dog or sheep, have been coated with a white slip. Copper coins brought from the village seemed to belong to issues of local governors of the Mughal dynasty. A low debris mound known as 'Ratta', about 2 miles to the west, is likely to have been occupied down to the same late period as suggested by the pottery fragments like Ratta. 4-6 (Pl. 1).

When, on November 16th, we proceeded up the well-marked old river bank, where it curves away westwards to some distance from the present main bed, we found a similar late date of occupation indicated by the remains of some deserted riverine sites. Thus near the townlet of Kahnuwān there is to be found a line of *thēs* skirting the old river bank and extending southward for upwards of a mile. All along it potsherds with coarsely painted black patterns on red ground, of the type already described, also with moulded, cut, and incised decorations (Kah. 30, 31, w. 1, Pl. 1) could be picked up in plenty. Fragments of glazed ware found with them (Kah. 17) date unmistakably from Muhammadan times. Some silver coins brought from this ground proved to belong to issues of Muhammadan rulers of northern India, bearing dates in the first half of the sixteenth century.

**SKETCH PLAN OF
KUSUK**



PLAN I



PLAN 2

Though erosion had here, too, laid bare deeper strata of debris, pottery of earlier periods was conspicuously absent. The former bed of the Beās was easily recognized in an extensive marsh to the east of Kahnuwān. The erosive force of the summer floods, which at times still descend it and reach the old bank, was attested by the undercut base of a brick-built Hindu shrine of no great age.

Some five miles farther north, near the village of Nangal, we visited a considerable debris-strewn area adjoining the old river bank and showing similar pottery. Several Muhammadan copper coins brought from this *thē* supplied chronological evidence in agreement with the late ceramic ware. But curiously enough a punch-marked square copper coin, obviously of early Hindu type, was also picked up on the surface. The relief-decorated fragment, Nang. 9 (Pl. I), may also be pre-Muhammadan. Finally I may mention that when we visited a group of mounds which the map marks rising above broken ground near the village of Mahārājpur, not far from the southward bend of the Beās, one of them was found to bear pottery debris of the same late type as noticed at the riverine sites lower down. The other mounds proved to be natural hillocks; and here our survey ended.

The observations here recorded from a series of sites along the right bank of the Beās are in such close agreement that some conclusions of antiquarian interest may safely be drawn from them. It is certain that the importance of river traffic in former times and the advantage offered by higher ground at convenient crossing places must always have attracted settlements of some size to the western bank of the river. If none of the sites now traceable along it can, by the evidence of their remains, be dated farther back than the medieval Muhammadan period, it is clear that the present western bank and the river course to which it owes its formation cannot be of any great antiquity.

It is equally obvious also that the absence of any earlier remains by the river can be fully accounted for by the bank on which they stood having been eroded by the river as it shifted westwards. We have no means to determine how far back in time this westward move of the Beās bed has asserted itself, nor whether since Alexander's days it has not been checked at times by a diversion in the opposite direction as is common in the deltaic conduct of rivers.³ In any case, however, our survey of the ground along the modern course of the river has sufficed to demonstrate that we cannot expect there, nor farther east, to

³ The possibility of such a temporary shift eastwards deserves to be kept in view with special regard to the statement of Pliny, *Historia naturalis*, vi. 17, which makes Alexander erect his altars on the left bank of the river. There are, however,

strong reasons for doubting the correctness of this statement, which is not supported by the accounts of any of Alexander's historians; cf. Anspach, *loc. cit.*, p. 82.

trace the exact spot, memorable in Alexander's career, that was marked by his famous 'altars'.

As against this negative conclusion, I may record the impressions which the scene conveyed, unaltered as it has remained in its general character all these centuries. As my eyes wandered again and again from the high banks of the river across the great flat of fertile land extending to the horizon, it seemed as if I could realize better the feelings with which Alexander's brave but hard-trying Macedonians might have viewed this vista. Months of hard fighting and marching in the intense heat of a Panjāb summer, alternately torrid and dank, had brought them here face to face with those interminable plains stretching away to the Ganges. Would not this sight, added to some knowledge of the vast distances still before them, help to foster revolt from following their great leader farther towards that ocean which his ambition had set as the limit of his world conquest? Inviting enough all the riches of these fertile plains would have appeared to Alexander's war-hardened troops while engaged in fighting their way so valiantly across mountains and deserts to India. But once arrived there, such a vista could only strengthen their longing to return to their distant homeland; and here their invincible king was at last forced to give in to them.

SECTION II—ALEXANDER'S PASSAGE OF THE HYDASPES

The task which by November 20th, 1931, led me from the bank of the Beās to that of the Jhēlum was to look for the ground where Alexander achieved his bold passage of the Hydaspes and fought his great battle with Poros.¹ The question as to its location had been long discussed, but no definite solution had been reached, and opinions had remained divided. Different locations had been proposed by those officers who in the course of the last century had occasion to visit one portion or another of the ground where routes from the Indus crossing the Salt Range lead down to the Jhēlum or Hydaspes, the *Vitastā* of Sanskrit texts. Those scholars who concerned themselves with the question while at work in their studies far away from India, could only try to weigh the different opinions held in the light of the interpretations they were inclined to put upon the classical records of Alexander's Indian campaign. Neither those early visitors to the ground since the days when Sir Mountstuart Elphinstone's famous Mission passed the Jhēlum in 1809, nor the scholars in Europe discussing the proposed locations, had enjoyed the advantage of such accurate topographical

¹ The main results of this search have been recorded in a paper 'The Site of Alexander's Passage of the Hydaspes and the Battle with Poros', published in the *Geographical Journal*, vol. lxxx (1932), pp. 32-46. They were also summarized in a letter contributed to *The Times* of March 16th, 1932.

and antiquarian information as the detailed maps produced in recent years by the Survey of India, and the local observations recorded by British administrators in District Gazetteers have placed at the disposal of the critical student.

Prolonged experience elsewhere had convinced me that, even with the help thus afforded, careful examination on the ground would be needed for a definite conclusion. But though desired for many years past, the freedom requisite for such an investigation had not offered before. As to the great interest attaching to this question of historical topography there could be no doubt. The scene of what was probably the most hazardous among the many amazing exploits of Alexander's campaigns could claim more than romantic glamour if correctly located. For as that great strategist and student of geography Hellmuth von Moltke has justly observed: 'The locality is the surviving portion of reality of an event that has long ago passed by. . . . It often restores to clearness the picture which history has preserved in half-effaced outlines.'²

Alexander's passage of the Jhēlum when swollen in flood and his subsequent decisive victory on the other bank over the formidable Indian army which opposed him, form the most remarkable of the military feats achieved by the great Macedonian captain, taking 'rank among the most brilliant operations of ancient warcraft'.³ They represent an event of outstanding and lasting historical importance. It is true, Alexander's victorious advance into the Panjāb did not result in permanent conquest. But it was the first among the numerous successful invasions of India from the north-west frontier which history records, and by reason of the cultural influences for which it opened the door, it marks an epoch in the past of India.

Before I indicate the views previously held as to the scene of this memorable event and then set forth the result of my own local investigations, it is necessary to refer briefly to the immediately preceding stages of Alexander's campaign, and next to consider what the extant records tell us about the passage of the river and the battle that followed. In our examination of the records attention may be confined chiefly to those data which help to locate the scene.⁴ They are mainly to be gathered from Arrian's *Anabasis*. His account, derived mostly from the contemporary records of Ptolemy and Aristoboulos, is the fullest and the most reliable.

Alexander, after crossing the Indus at the close of his expedition against Aornos, had been hospitably received at Taxila, whose ruler had tendered his submission while the Macedonian forces still stood in the Peshawar valley.

² Cf. Moltke, *Reisebriefe aus der Türkei*.

³ See Hogarth, *Philip and Alexander of Macedon*, p. 239.

details gathered from classical texts, Anspach, *De Alexandri Magni expeditione indica*, pp. 39 sqq., may be conveniently consulted.

⁴ For a synopsis of such data and for other

There he learned of the opposition which Poros, the powerful king of the region beyond the Hydaspes, was preparing to offer to his advance. The mention of Taxila as the place whence Alexander's move to meet Poros was begun furnishes an absolutely safe starting-point for his route. The position of Taxila, the Takshaśilā of early Indian texts, was long ago correctly identified by Sir Alexander Cunningham with the ruined site of Shāhkī-dhērī, between Hassan Abdal and Rawalpindi, on the North-Western Railway.⁵ Epigraphic finds and Sir John Marshall's successful excavations have since placed this location beyond all doubt. Its certainty derives all the more importance for us from Strabo's mention of Alexander's route from Taxila to the Hydaspes having lain mainly towards the south, and from Pliny's statement that the distance between Taxila and the Hydaspes, as measured by Alexander's surveyors, was 120 Roman miles.⁶

The march thence to the Hydaspes must have taken Alexander across the Salt Range and the much broken table-land to the north-west of it. In many places the ground here would place difficulties in the way of a large force advancing across it. But apart from an incident of uncertain location related by Polyænos,⁷ we read of no armed resistance having been met until 'Alexander encamped on the banks of the river and Poros was seen on the opposite side, with all his army and his array of elephants around him', as Arrian tells us.⁸

Alexander 'clearly saw that it was impossible for him to cross where Poros himself encamped near the bank of the Hydaspes'. Other points affording chances of a passage were also being carefully watched by detachments of the enemy. No crossing could be attempted at any point if Poros were to move and oppose it with his elephants, which the horses of the Macedonians unaccustomed to their sight would not be able to face on landing. So Alexander resorted to a series of demonstrations along his bank of the river in order to divert and wear out the enemy's attention, while he was trying to find a place where it would be possible for him to steal his passage across the river. Finally the nightly feints made by Alexander's cavalry had their effect, and Poros ceased to move out of his camp with the elephants to meet such threats.⁹ But the great physical obstacle presented by the condition of the river remained. For it was the time after the summer solstice when its waters,

⁵ See Survey of India Sheet No. 43. c. (1. D).

⁶ Cf. Strabo, *Geographia*, xv. 82, and Pliny, *Historia naturalis*, vi. 17; for the significance of bearing and distance, see below, pp. 16 sq.

⁷ Cf. Polyænos, *Strategemata*, iv. iii. 21. Pit-takos, a grandson of Poros, who has been identified with Spitakes mentioned by Arrian among the slain in the battle on the Hydaspes, is there stated

to have endeavoured to arrest Alexander's march in a narrow valley terminating in a strait defile.

⁸ Cf. *Anabasis*, v. ix. 1. Passages from Arrian and Curtius are quoted in M'Crindle's translation in his 'Invasion of India by Alexander the Great', with needful modifications where suggested by the original text.

⁹ Cf. *Anabasis*, v. x. 3, 4.

swollen by the rains and the melting snows of the mountains, rendered fording impossible.¹⁰

About the place which Alexander finally chose for the intended crossing, we are told by Arrian: 'There was a headland (ἄκρᾱ) ascending from the bank of the Hydaspes at a point where the river made a remarkable bend, and this was thickly covered with all kinds of trees. Over against it lay an island covered with jungle, an untrodden and solitary place. Perceiving that this island directly faced the headland, and that both places were wooded and adapted to screen his attempt to cross the river, he decided to take his army over this way. Now the headland and the island were 150 stadia distant from the great camp.'¹¹ Curtius's description of the place selected by Alexander for crossing states of the island that it was 'larger than the rest, wooded and suitable for concealing an ambuscade', and adds the important detail: 'A deep ravine (*fossa praealta*) moreover, which lay not far from the bank in his own occupation, was capable of hiding not only foot-soldiers but also men with horses.'¹²

Arrian records details of the dispositions made by Alexander to deceive the Indians as to his intended crossing. A portion of his forces under Krateros was left in the camp with orders to cross to the opposite bank as soon as Poros was seen to have withdrawn from it his formidable array of elephants. Another portion under Meleager was posted half-way between the island and the main camp, and ordered to cross in detachments as soon as the Indian army was seen fairly engaged in battle. Alexander himself with selected troops of horse and foot 'marched with secrecy, keeping at a considerable distance from the river that he might not be seen moving towards the island and the headland from which he intended to cross over to the other side'.¹³

There most of the boats previously brought across from the Indus in sections had been conveyed and secretly put together. Skin rafts carefully provided before were got ready during the night. A violent storm coming on during the night drowned the noise of the preparations with its thunder and rain. Towards daybreak the wind and rain ceased, and the troops on skin rafts and boats moved across in the direction of the island. 'They were not seen by the sentries posted by Poros till they had passed beyond the island and were not far from the bank.' Alexander himself had embarked on a thirty-oared galley with his bodyguards and other selected men.¹⁴

'As soon as the soldiers had passed beyond the island they steered for the bank, being now in full view of the enemy.' While the sentinels galloped off to carry the tidings, Alexander disembarked, himself the first, and at the head of

¹⁰ Cf. *Anabasis*, v. ix. 4.

¹¹ See *ibid.* v. xi. 1.

¹² Cf. Curtius, *Historiae*, viii. xiii. 17.

¹³ Cf. *Anabasis*, v. xi. 3; xii. 1, 2.

¹⁴ Cf. *ibid.* v. xii. 3, 4; xiii. 1.

the cavalry first landed moved forward. 'Owing, however, to ignorance of the locality he had unawares landed not on the mainland, but upon an island and that a great one . . . separated from the mainland by a branch of the river in which the water was shallow; but the violent storm of rain which had lasted most of the night, had so swollen the stream that the horsemen could not find the ford. . . . When at last the ford was found, he led his men through it with difficulty; for the water where deepest reached higher than the breast of the foot-soldiers, and as for the horses their heads only were above the river.'¹⁵

We need not follow the details of the events subsequent to the crossing, as recorded by Arrian mainly from the account of Ptolemy, son of Lagos and future king of Egypt, who shared Alexander's bold enterprise; a brief summary will suffice, including such points as may have a topographical bearing. Alexander, leading forward his cavalry, some 5,000 strong, had no difficulty in routing the inferior force of horsemen and chariots which Poros had first sent ahead under his own son. The chariots proved useless in the action, having stuck in the clay, and were all captured. On learning of this rout and of Alexander himself having crossed with the strongest division of the Macedonians, Poros decided to leave only a small force in camp to watch Krateros and to march against Alexander with all his remaining host. He is said to have taken 'all his cavalry, 4,000 strong, all his chariots, 300 in number, 200 of his elephants, and 30,000 efficient infantry'.¹⁶

About the order of battle adopted by Poros, Arrian gives us details which, as we shall see, afford a useful topographical indication. 'When he found a place where he saw there was no clay, but that the ground from its sandy nature was all flat and firm, and suited for the movements of cavalry whether charging or falling back, he then drew up his army in order of battle, posting his elephants in the front line at intervals of at least a plethron (101 feet), so as to have his elephants ranged in front before the whole of his infantry, and so to spread terror at all points among Alexander's cavalry. . . . Behind these he drew up his infantry, which did not close up in one line with the elephants, but formed a second line in their rear so that only bands (λόχοι) were inserted in the intervals. He had also infantry posted on the wings beyond the elephants. On both sides of the infantry the cavalry had been drawn up, and in front of it the chariots.'¹⁷ There is nothing stated that could suggest that this very extensive line of battle was protected on its flanks by any physical feature such as the river bank or broken ground. This point deserves to be specially noted as it has its bearing on the tactical development of the battle, and on account of the light which this throws on the topography of the ground where it was fought.

¹⁵ Cf. *Anabasis*, v. xiii. 1-3.

¹⁶ Cf. *ibid.* v. xv. 1-4.

¹⁷ Cf. *ibid.* v. xv. 5-7.

Alexander, after allowing his infantry to come up, halted the phalanx. Then, while the horse archers were sent ahead to disturb the Indian left wing, he himself with the greater part of the cavalry, in which he was superior, rapidly launched an attack against the enemy's left flank.¹⁸ 'The Indians meanwhile had collected their horsemen from every quarter and were riding forward to repulse Alexander's onset.' Thereupon Koinos, whom Alexander had with two regiments of horse detached towards the enemy's right wing, in accordance with his previous orders, appeared in their rear. The Indian cavalry, thus forced to face both to front and rear, was thrown into confusion and completely broke when Alexander, instantly using his opportunity, fell upon it.

This initial success, gained as on other occasions by Alexander's incomparable genius as a leader and the trained skill of his Macedonian cavalry, decided the issue of the battle. The elephants, to which the Indian horsemen had fled for shelter, on moving forward were met by the Macedonian phalanx which had come up. The Macedonians, though unaccustomed to this kind of warfare and suffering serious losses from the elephants' onslaughts, held fast. Alexander's cavalry, being free to operate from all sides, made great carnage wherever they fell upon the ranks of the Indians, though these fought very bravely. 'The elephants being now cooped up in a narrow space, did no less damage to their friends than to their foes.' Finally, surrounded by Alexander's cavalry and pressed by the Macedonian infantry advancing in compact phalanx, the whole Indian host was cut to pieces or fled 'wherever a gap could be found in the cordon of Alexander's cavalry'.¹⁹

On seeing that victory was being gained by their king, the troops left behind on the right bank of the river crossed. Taking up the pursuit, they did great

¹⁸ I believe that only by assuming an outflanking manoeuvre directed against the left wing of Poros can the initial development of the battle, as described by Arrian in v. xvi, be properly understood. The words by which the immediate aim of Alexander's move is indicated (κατὰ κέρας ἐτι τεταραγμένοις ἐμβαλεῖν σπουδὴν ποιούμενος, πρὶν ἐπὶ φάλαγγος ἑσταθῆναι αὐτοῖς τὴν ἵππον) clearly suggest that the Indian cavalry on the left wing was formed not in line but in columns. This disposition is obviously the one adapted for the protection of an extensive front drawn up with a view to defence and yet not resting its flank on some natural defensive feature as the river might have been. The preliminary attack of the horse archers would serve to occupy the front of the Indian left wing formed by infantry and chariots while at the same time screening the principal attack made on the flank.

The turning movement needed for Alexander's attack would require some time. This again explains why the Indians could collect their horsemen from every quarter to meet this attack. The subsequent forward move of the whole Indian mounted force would allow Koinos to fall on its rear after passing down the front of the stationary Indian centre from where his horse had first been sent on a feint against the enemy's right wing.

I may correct here the interpretation put by me in my paper, *Geogr. Journal*, lxxx. p. 35, upon the words *Anabasis*, v. xvi. 3, as referring to Alexander's right. Though accepted by M'Crindle, *loc. cit.*, p. 104, note 2, and some authorities there quoted, it cannot be reconciled with the immediately preceding words of the text where the left wing of the enemy is mentioned. See also below, p. 33, note 21.

¹⁹ *Anabasis*, v. xvii.

execution among those who had escaped from the slaughter. Finally Poros, who had fought with great valour throughout the battle, was forced to surrender. After recording Alexander's generous treatment of the vanquished king, Arrian tells us: 'Alexander founded two towns, one on the field of battle and the other whence he had started to cross the Hydaspes. The former he called Nikaia, in honour of his victory over the Indians, the other Boukephala in honour of his horse Boukephalos which had died there', as Arrian states, from toil and old age.²⁰

From this account of the hard-contested battle, the first recorded in history among the many by which invaders from the north-west fought their way into the plains of India, I now turn to the question with which we are concerned here, that of the ground which was the scene of this the greatest, perhaps, of Alexander's military achievements. Before I proceed to set forth the results of local examination, partly topographical, partly archaeological, which I believe may settle the question, it will be useful briefly to review the two contending opinions which have so far prominently figured in the discussions devoted to it.

Both opinions have been championed by distinguished scholars. One, first proposed by Sir Alexander Burnes and Monsieur Court, one of Ranjit Singh's French generals, would make Alexander reach the Jhēlum at the town from which the Hydaspes or Vitastā takes its modern name.²¹ He was supposed to have marched there from Taxila by the route which the present Grand Trunk Road follows past Rawalpindi and across the Salt Range. This view was advocated at some length by General J. Abbott, who, after a two days' visit paid to the ground in 1848, sought the field of the battle with Poros on the Karrī plain to the north-north-east of Jhēlum town.²² It had been overshadowed for many years by the rival theory of General Alexander Cunningham, to be mentioned below, until revived with many a learned argument by the late Mr. Vincent Smith, and widely propagated through his scholarly work, *The Early History of India*, and other publications based on it.

In a lengthy appendix dealing with the question Mr. Vincent Smith placed ✓ Alexander's crossing at Bhūna, some 10 miles above Jhēlum town.²³ There the river, after leaving the foot-hills, makes a bend, though not a marked one. But, as any large-scale map would show, there is no 'headland ascending from the river' (Arrian's ἄκρα) to be found anywhere near there on the right bank, nor

²⁰ Cf. *ibid.* v. xix. 4.

²¹ For the views of those early visitors of the Panjāb see Vincent Smith, *Early History of India*, Appendix E, p. 77; and M. Court in *Journal of the Asiatic Society of Bengal*, 1836, pp. 387 ff.; 1839, pp. 304 ff.

²² See his paper in the *Journal of the Asiatic Society of Bengal*, 1848 (part II), pp. 619-33.

²³ See *Early History of India*², Appendix E, pp. 76 sqq. The very sketchy plan facing p. 60 shows the distance erroneously as 21 miles.

any deep ravine, as Curtius's account mentions. In accordance with this location Mr. Vincent Smith was prepared to look for the battle-field on the comparatively narrow stretch of riverine flat which to the east of the river intervenes between its left bank and the much broken ground at the foot of the Pabbi range of hills. But a mere glance at a detailed map would suffice to raise grave doubts as to how this narrow stretch of practicable ground could afford space for so extensive a line of battle as Arrian describes.

Before Mr. Vincent Smith took up the question at Oxford, with quasi-legal acumen but without adequate study of the ground, General Cunningham's theory, put forth in his *Archaeological Survey Report of 1863-64*, held the field.²⁴ He placed Alexander's camp at Jalālpur, a small town on the right bank of the river about 30 miles below Jhēlum. There, as the map shows, the river leaves the foot of a rugged projecting spur of the Salt Range, washed by it for a distance of about 8 miles higher up, and finally emerges into the open alluvial plain.

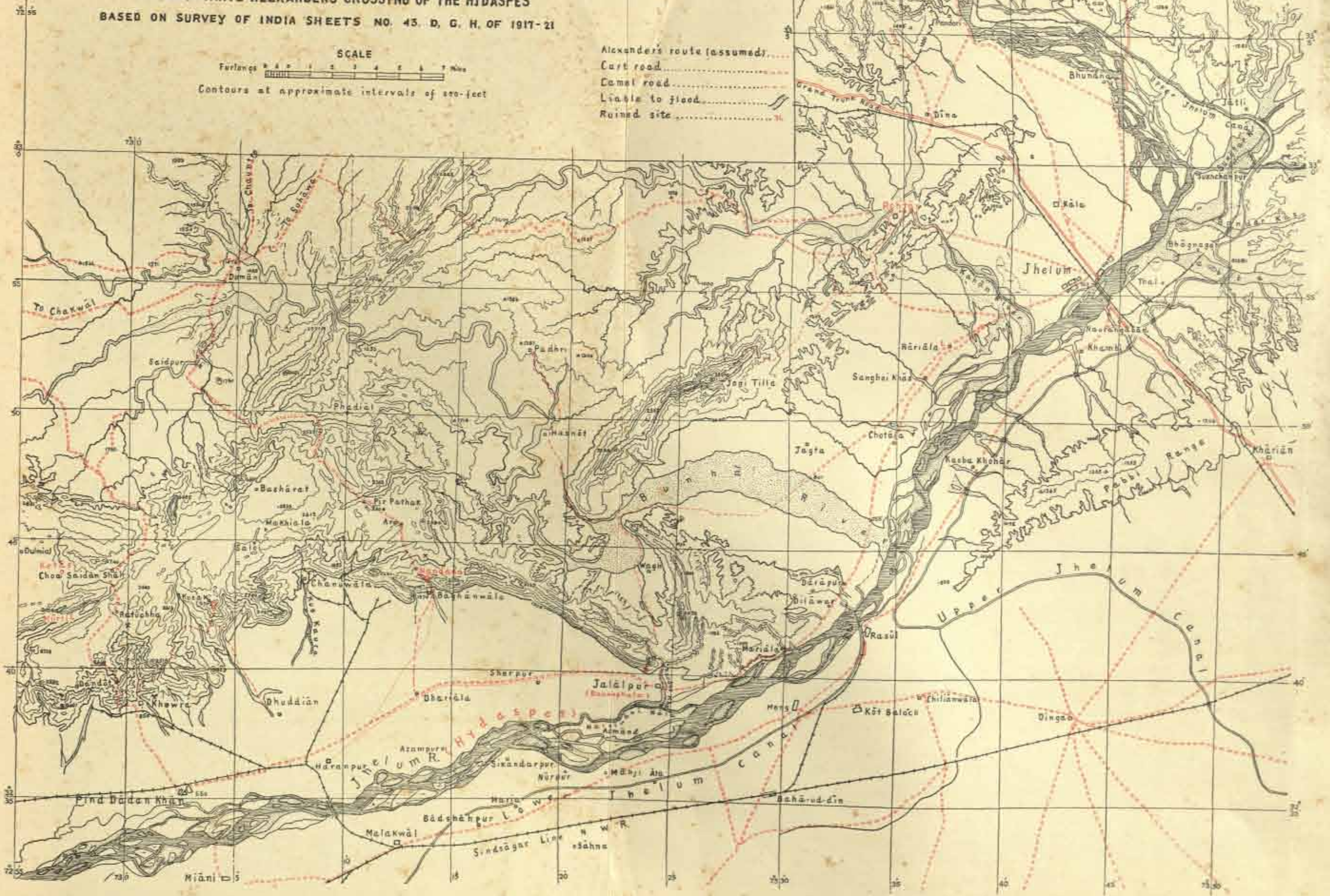
It was at the village of Dilāwar, at the upper end of the river's course along the spur just mentioned, that General Cunningham sought the place which Alexander had selected for his crossing. But the distance between Jalālpur and Dilāwar is only 8 miles, and hence would not agree with the 150 stadia, or 17½ miles, which Arrian definitely mentions as the distance between Alexander's camp and the place of his crossing. In order to meet this difficulty about his assumed locations, General Cunningham felt obliged to make Alexander's troops perform an arduous night march by a very devious route. This he supposed to have taken them from Jalālpur up a narrow winding ravine, and then across its head by a difficult track into another winding ravine, and thus finally down to Dilāwar (see Skeleton Map 1). On this route the desired distance of some 17 miles would indeed be arrived at. But how a large force could be taken over this distance, across such difficult ground, in the course of a single stormy night, remained unexplained.

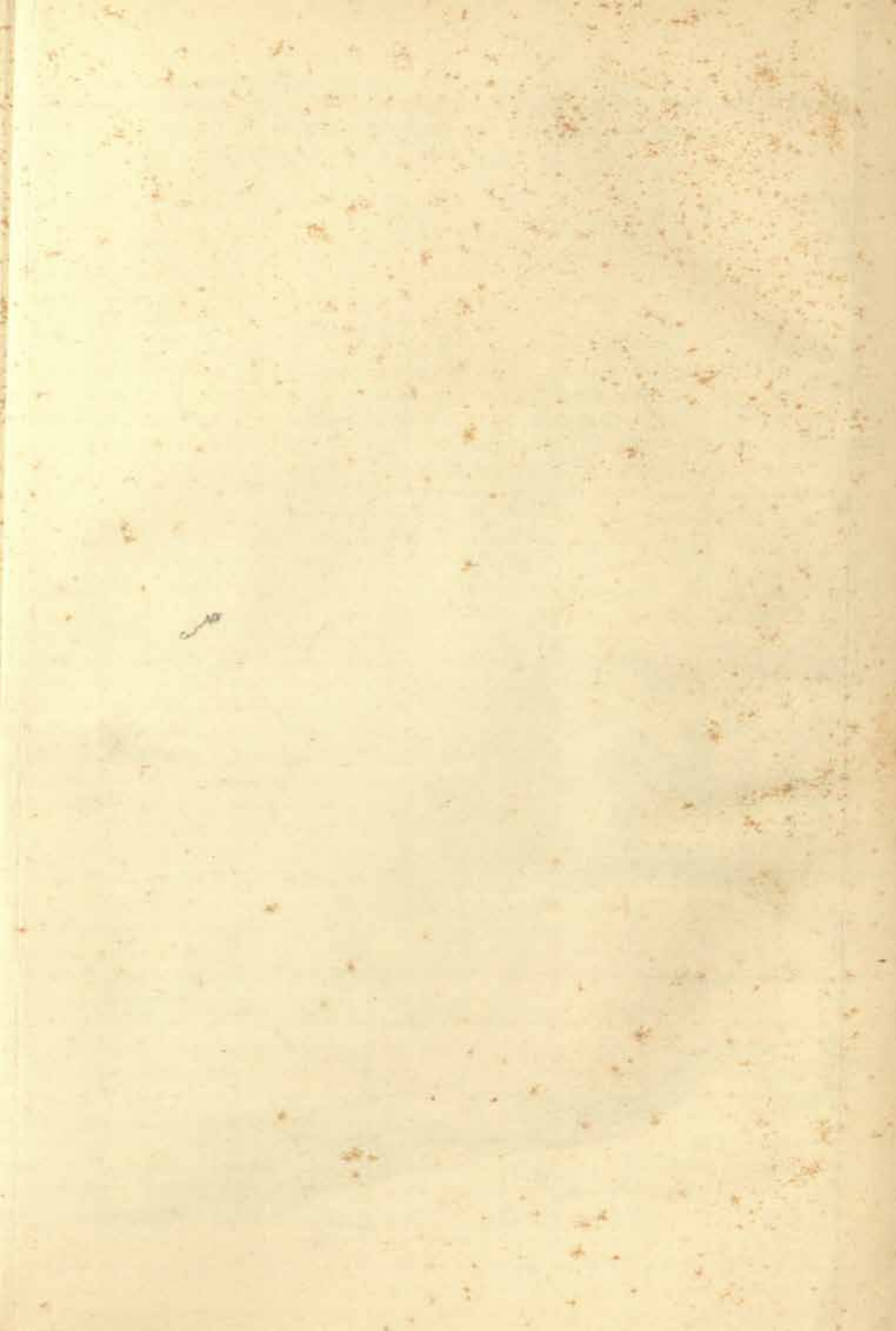
The Nestor of Indian Archaeology had taken pains to study the ground and had endeavoured to strengthen his theory by arguments drawn from such scanty topographical indications as classical authors apart from Arrian and Curtius afford regarding Alexander's operations. Thus he rightly pointed out that the southerly direction indicated by Strabo²⁵ for Alexander's march from Taxila as far as the Hydaspes distinctly points to a route having been followed that lay to the west of one leading to Jhēlum town, like the present Grand Trunk Road. He also recognized that the distance of 120 Roman miles, or 110 English miles, from Taxila to the Hydaspes, as recorded by Pliny from the measurements of

²⁴ See *Archaeological Survey Report*, ii. pp. 175 sqq.

²⁵ Cf. Strabo, *Geographia*, xv. 32.

SKELETON MAP OF SALT RANGE AND JHELMUM RIVER
TO ILLUSTRATE ALEXANDER'S CROSSING OF THE HYDASPES
BASED ON SURVEY OF INDIA SHEETS NO. 43, D, G, H, OF 1917-21





Alexander's surveyors,²⁶ is distinctly greater than that measured to Jhēlum, whether by the line of the Grand Trunk Road or by that of the earlier road leading there past the fortress of Rohtās. He rightly saw that this distance points to a longer route striking the Jhēlum lower down.

The serious difficulty already indicated about General Cunningham's locations, however, remained; and Mr. Vincent Smith's critical examination has shown that some minor arguments adduced by him were not conclusive.²⁷ It was clear that both rival theories involved serious difficulties. What alone could offer a chance of settling the question was a careful scrutiny on the spot of the recorded historical data in the light of topographical facts and of whatever definite antiquarian indications might be found.

My survey was started on November 21st from Jhēlum Cantonment, which I had reached the day before after a brief halt at Lahore. When by a long day's ride extending as far as the vicinity of the Upper Jhēlum Canal head at Jātli I closely examined the ground which stretches up the left bank of the river to the north-east, I convinced myself that the battle with Poros could not possibly have been fought there as assumed by Abbott and Vincent Smith. Within three miles above the ground opposite to Jhēlum town, where according to their assumption the camp of the Indian army must have stood while facing that of the invader, there begins a series of marshy flood beds which stretch right across the narrow riverine belt and, with short interruptions, extend for over five miles up the river. These successive beds of the Jabba, Bandar Kas, and Sukētar Nālās receive the drainage of numerous torrents descending from the Pabbi range and the hills of Bhimbhar and Mīrpur. They are from one-half to one and a half miles in width where they pass across the riverine flat before they join the Jhēlum. Quicksands remain in them, as ocular evidence showed, even after the rains of the 'hot weather' months have passed. During those months they are quite impassable, whether on foot or horseback; the only route then practicable lies along the very broken ground at the foot of the hills to the east, entailing long detours. Some idea of the difficulties presented by this ground can be gained from the numerous and elaborately constructed bridgings and barrages, some over a mile long, over which the Upper Jhēlum Canal, taking off higher up the river, had to be carried here.

It would have been an impossible proposition to take the large army of Poros with its chariots and elephants over such ground in the season of rains. It proved equally certain in view of the topographical facts clearly shown by the Survey of India's detailed maps (e.g. No. 43. n. north-east) that the limited width of tolerably flat ground to be found beyond the great marshy bed of the Sukētar

²⁶ Cf. Pliny, *Historia naturalis*, vi. 17.

²⁷ See *Early History of India*², pp. 77 sqq.

Nālā could nowhere suffice for a battle array such as Arrian definitely records of the Indian army. The width of this ground between the river bank, itself liable to widespread inundation during the rains, and the broken foot of the hills is nowhere more than $3\frac{1}{2}$ miles, and farther up it steadily narrows. Taking Arrian's detailed figures, the front line of infantry alone, protected by 200 elephants at a distance of a plethron, or 101 English feet, from each other, would have stretched over close on 4 miles. The chariots and the cavalry posted at each of the wings must have extended the line greatly; and, in addition to this, sufficient room would have to be allowed for the attack on the left flank as suggested above.²⁸

In view of such plain topographical facts there is no need to discuss at length other grave objections to the theory learnedly advocated by Mr. Vincent Smith. It is enough to point to the absence at Bhūna of anything in the shape of a 'headland ascending from the bank of the river' or to the fact that the distance from Jhēlum town to Bhūna is only 10 miles instead of the $17\frac{1}{2}$ miles mentioned by Arrian between Alexander's camp and the headland selected for the crossing.

At the time of my visit to this ground, and even later when the preceding portion of this section was first written, I was unaware that the theory locating Poros's camp opposite to Jhēlum town had been recently taken up in a modified form by Professor B. Breloer. The results of the learned investigations devoted by him to the whole complex of questions concerning the struggle between Alexander and Poros are set forth in elaborate detail in his volume *Alexander Kampf gegen Poros. Ein Beitrag zur indischen Geschichte*, published in 1933.²⁹ An examination of the ground made some time between 1929 and 1931 led Professor Breloer to believe that Alexander reached the river by the line of the Grand Trunk Road, that Poros's camp stood opposite to the present Jhēlum town, and that the place where Alexander's successful crossing was made was to be looked for at a point some $2\frac{1}{2}$ miles below the fort of Mangla.³⁰ There, at a distance of about 13 miles in a straight line above Jhēlum town, a small valley holding the torrent bed known as the Pothawāla Kas joins the right bank of the river emerging from the foot-hills. In the steep ridge between this nālā

²⁸ Was it perhaps the thought of the very restricted space afforded by the supposed battlefield which caused Mr. Vincent Smith in his 'Plan of the Battle of the Hydaspes' (*Early History of India*², p. 80) to compress the 200 elephants of Poros into a column eight lines deep and the whole Indian front into a little over $1\frac{1}{2}$ miles long? Such a disposition of the elephants is precluded not only by Arrian's description but also by Diodoros's account, *Hist.* xvii. lxxxvii. 4. Nor could it be

readily reconciled with tactical considerations.

²⁹ See Heft 3 of *Bonner Orientalistische Studien* (Kohlhammer, Stuttgart), pp. ix, 204, with numerous photographs and sketches.

³⁰ For a detailed description of the topographical features at this point see pp. 137 sqq., and the sketch roughly reproduced from the 1-mile-to-the-inch map of the Survey of India at the end of the volume.

and the river Professor Breloer recognizes the ἄρρα of Arrian, and in the *nālā* itself the deep *fossa* of Curtius. The island which we are told by Arrian screened the crossing of the river, and which Curtius describes as 'larger than the rest, wooded and suitable for concealing an ambuscade', is assumed to be represented by one or both of two small boulder-strewn islets projecting from the mouth of Pothawāla Kas.

The great island which was reached after the crossing and was taken by the Macedonians as the main land is identified by Professor Breloer with the long stretch of swelling ground which lies between the left bank of the river and the torrent bed of the Jabba Nālā at the foot of the high ridge bearing the Mangla fort at its end. After the difficult passage of this obstacle had been secured and a short distance beyond it, the small Indian force of cavalry and chariots under Poros's son had been defeated, Alexander's troops are assumed to have marched for some 15 miles along the left bank of the Hydaspes before engaging in battle with Poros's main army arrayed near the position it originally occupied opposite Jhēlum town, at the present Naurangābād. This supposed line of the Macedonian advance, as shown in Professor Breloer's sketch-map, lies across the succession of the wide torrent beds of the Sukētar, Bandar Kas, and Jabba Nālās, not to mention a number of smaller ones both above and below them. This very important topographical fact remains wholly unnoticed in the text.

On the other hand, we are furnished in the initial and major portion of Professor Breloer's book³¹ with an elaborate and painstaking critical analysis of all notices bearing on the battle itself. From this he draws the conclusion that on receiving the news of Alexander's crossing Poros did not, as has been hitherto assumed by all commentators, on the strength of Arrian's words, move out to meet the invader, but ranged his army into an array of approximately horseshoe shape, his intention being to defend the ground where he had so far successfully barred the passage of the river against the Macedonian main force and at the same time to defeat the attack boldly launched against him by Alexander himself.

The ingenious argumentation with which this view is supported may well claim the merit of affording a possible explanation for certain incidents of the battle, such as the much discussed movement of Koinos's cavalry in the rear of the Indian horse. But at the same time this critical analysis, exhaustive as it is, only helps to bring out how inadequate and in some aspects discordant are the notices about the tactical incidents of the battle, as preserved in our extant sources. It does not come within the scope of the present report to attempt to discriminate between those features of the battle which Professor Breloer's careful examination guided by military experience and insight has put into their

³¹ See in particular pp. 46-120.

right light, and others which appear to have been reconstructed on grounds far too conjectural. Still less need an opinion be expressed here to what extent the fresh views advanced as to the ultimate decision of the battle and its immediate results may claim acceptance.

From the point of view of ancient topography the essential fact is that whatever interpretation we put upon the disposition of Poros's army before and during the battle, its location in the confined space about Sarai Naurangābād opposite to Jhēlum town, as assumed by Professor Breloer, is incompatible with the natural features of the ground. I have already had occasion to point out that the wide torrent beds of the Sukētar, Bandar Kas, and Jabba Nālās are quite impassable whether on horseback or foot after rain, and remain so during the whole 'hot weather' season. However great our opinion must be of the marching capacity of Alexander's war-hardened veterans, it is impossible to assume that after the difficult crossing made only at dawn, and the delay caused by the fording of the unexpected deep channel, his troops could have been brought across such forbidding obstacles as are presented by the extremely broken ground at the foot of the hills eastwards, or made the great detours needed to avoid them, in time to fight a long protracted battle on the same day. Equally conclusive is what both Ptolemy and Aristoboulos record of Alexander's force having been met soon after that channel had been forded by a considerable detachment of Indian horse and chariots sent by Poros on having received the first news of the crossing of the river.³² It is obvious that, however rapidly the crossing had been reported to Poros by his mounted scouts, no cavalry, still less chariots, detached by him could have covered such ground in time to meet Alexander's force where Professor Breloer would locate the encounter, about 14 miles from Naurangābād.³³

To these, to my mind conclusive, topographical objections there can be added others of a similar nature. Taking the assumed starting-point for the crossing at the mouth of the Pothawāla Kas, it must be pointed out in the first place that neither of the two small islets to be found there, scarcely 2 furlongs long each, could furnish an effective screen for the passage, such as Arrian's description and Curtius's distinct reference to 'an island greater than the rest',³⁴ plainly indicate. Then it deserves to be carefully noted that any such extensive preparations as the building of many rafts and boats, &c., could be easily observed from the dominating height occupied by the present fort of Mangla, fully 200 feet above the river and only $2\frac{1}{2}$ miles away on the opposite side. It commands a complete

³² Cf. Arrian, v. xiv. 2-6.

³³ See *Alexander's Kampf*, pp. 42 sqq.

³⁴ See above, p. 12. Professor Breloer rightly

observes, p. 140, that in view of the local conditions at this point no serious change in the character of these islands can be assumed since Alexander's time.

view of the river's course right down to Jhēlum, and Professor Breloer has justly noted that it was bound to serve as a principal observation post for a force guarding the left bank. Was it likely that a secret crossing could be safely prepared under its very eyes as it were? In view of this there is no need to stress particularly the fact that even along the somewhat devious route assumed for Alexander's secret march to the proposed crossing place the distance is only a little over 14 miles as against 150 stadia or $17\frac{1}{2}$ miles recorded by Arrian.

More important it appears to me to note the total absence in all our accounts of any reference to the very broken character of the ground which stretches round the position assumed to have been held by Poros in the battle, and which would have greatly added to its strength. As any detailed survey map shows, torrent beds steeply cut into the clay terrace flank the Naurangābād site both on the north and south. They would have greatly hampered, if not altogether precluded, those rapid cavalry movements against the Indian left flank upon which, as Arrian's description clearly shows, Alexander's initial success wholly depended. To the east where the ground steadily rises towards the Pabbi range, the flat ground rapidly narrows. Within a mile or so beyond the assumed defensive horseshoe formation of Poros it becomes so furrowed by small ravines that the great turning movement assigned to Koinos's horse against the enemy's right could not have been executed in time to aid the main attack. It would seem strange if such important features of the ground, greatly favouring the defence, had been left wholly unnoticed in the Greek accounts of the hard contested victory if it really had been gained here.

But the attention just drawn to the actual features of the supposed battle-field opposite Jhēlum may claim more than a negative value. If the consideration due to them be extended to the whole terrain flanking what may briefly be described as the eastern bridge-head of the Jhēlum passage, it must become clear how difficult it would be for an invader from the north-west to force this passage if held in strength on the left bank. We have seen already that the great torrent beds to the north, boggy even in the 'cold weather' season, together with the furrowed hills drained by them, make approach to this bridge-head from higher up the river very difficult.

A look at any large-scale survey map will show that Nature has made the approach to it equally difficult along the river below. There the steep Pabbi range drawing nearer sends down to the left bank a continuous succession of ravines, large and small. They intersect the narrow strip between the river and the foot of the hills to such an extent as to render rapid movement or deployment very difficult for any large body intended to attack that bridge-head from the south. If we add to this the facilities for defence which the Pabbi range

behind it, rising to heights above 1,300 feet and cleft by innumerable ravines, would offer, even after the bridge-head had been taken, we may realize that the road crossing the river at Jhēlum, convenient for traffic towards the plain of the Panjāb in peace-time, would not be the best line to follow for an invader from the north-west as long as armed resistance were to be met on the left bank.

We are justified in believing that Alexander was in possession of all the local information available through the ruler of Taxila, his ally and the immediate neighbour of Poros. He would thus be in a position to decide upon the choice of a route for his advance which was less likely to favour his opponent in the defence of the river crossing. We shall see that there is such a route leading to the Hydaspes much farther down which was repeatedly used by another great invader of India, and the earliest after Alexander of whose advance to the river we have definite historical knowledge. The choice of a route farther south was all the more advisable for Alexander, as it was bound to draw Poros farther away from the territory of Abisares, the ruler of the outer hills, for whose armed assistance he was hoping.³⁵

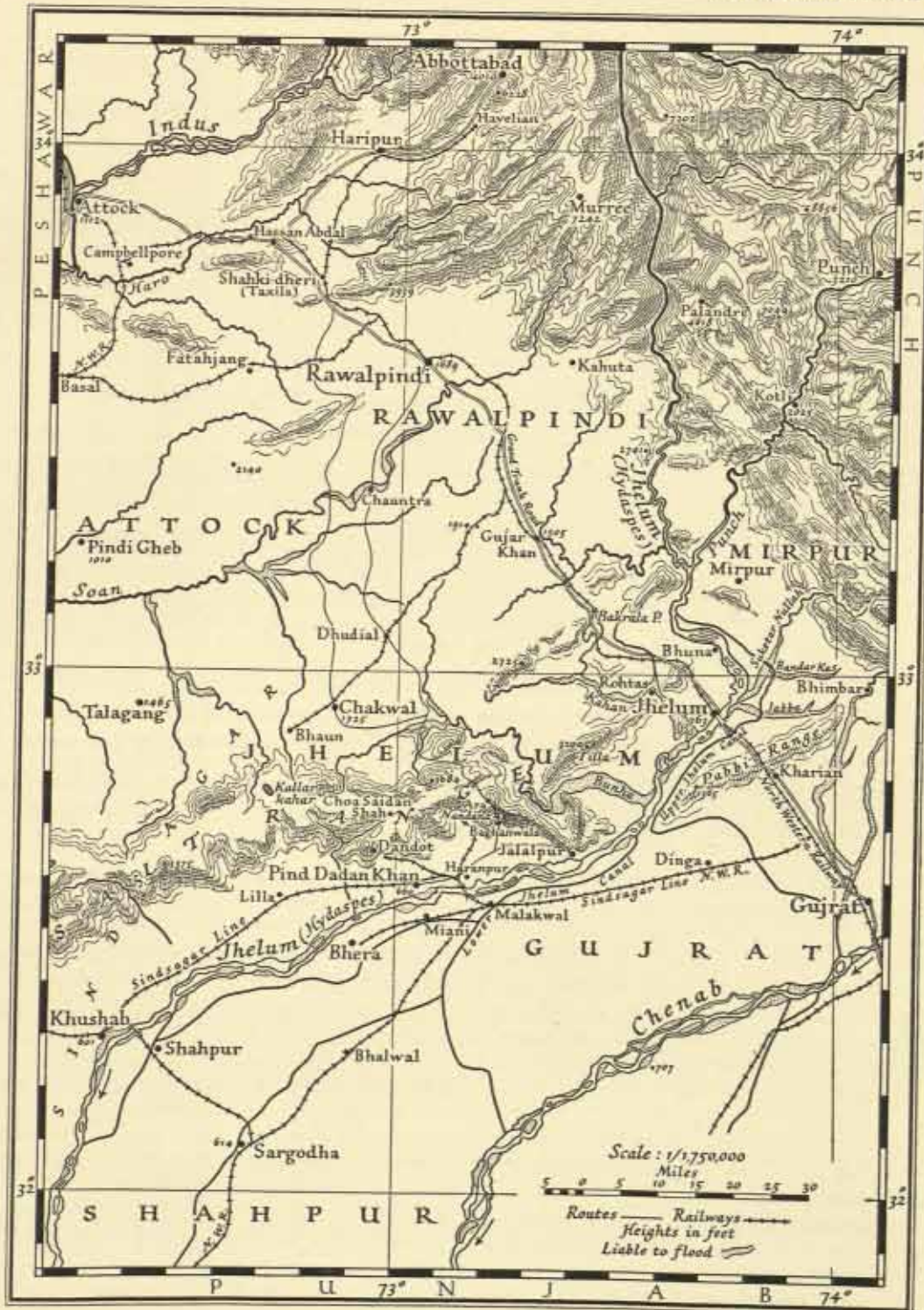
Before turning to the ground lower down the river in search of the true scene of Alexander's great exploit, I may add a few words regarding the route leading from Taxila via Rawalpindi to Jhēlum. It is the shortest in the direction of such old centres as Siālkōt and Lahore, and its use is attested from medieval times onwards. But before the Grand Trunk Road was constructed it was by no means the easiest route. Of this I had occasion to convince myself on a long excursion which I made from Jhēlum on November 23rd along the old line of the route. It leads up the narrow winding defile (Fig. 1) in which the Kahān river has cut its way through the eastern branch of the Salt Range past the great fortress of Rohtās, which the Emperor Shēr Shāh constructed in A.D. 1542-3 in order to guard this difficult exit into the riverine plain against the warlike Ghakkar tribe holding the north-eastern portion of the Salt Range. Thence the old *shābī* road, marked by ruined Mughal *sarais* and other remains,³⁶ could be traced over much broken ground to the Bakrāla pass leading across the western branch of the Salt Range. The gorges on either side of the pass, and even more perhaps the extensive network of deep cut ravines furrowing the plateau to the north, must have offered serious impediments to traffic before the Grand Trunk Road was alined here.

³⁵ Cf. Curtius, *Histor.* viii. xiv. 1.

³⁶ While following the line of this 'Imperial Road' northwards, we came at a distance of about 2 miles from Rohtās upon a conspicuous old mound in the fields of Madīna. It measures about 90

yards in diameter and rises to some 12 feet above the field level. Among the plentiful broken pottery covering it pieces with stamped relief decoration of an old type, like Mad. 8 (Pl. I), were numerous.

SKELETON MAP 2



SKELETON MAP SHOWING PORTIONS OF THE DISTRICTS BETWEEN THE INDUS AND CHENĀB RIVERS

SECTION III—NANDANA AND THE CROSSING BELOW JALĀLPUR

To the south of Rohtās a rugged portion of the eastern branch of the Salt Range culminates in the hill of Yōgī Tilla, 3,200 feet above sea-level. Its conspicuous height is sacred to Hindus as the gathering place at certain times for religious mendicants of Yōgī sects all over India.¹ The difficult ground of the adjoining hill chain bars convenient access to the Jhēlum for over 20 miles. There is no regular route leading across it, and hence Alexander's camp cannot be looked for anywhere between its foot and the river.² For a similar distance on the opposite side of the river the proximity of the Pabbi hills and the very broken nature of the ground at their feet preclude, as already explained, the idea of the battle with Poros having been fought across there.

Very different are the topographical conditions presented by that portion of the Salt Range which continues for a considerable distance beyond the Tilla hills with a general westward trend. There the hills are crossed by a succession of routes which an invader coming from the north-west could conveniently use to reach the Jhēlum and the open plain beyond the river. Apart from the route descending to Jalālpur, the only one to which Cunningham and Vincent Smith make any reference, there are at least four routes practicable for laden animals, including camels, in regular local use for crossing that portion of the range which comes into consideration here. This extends from the wide flood bed in which the Bunhā river, usually dry, makes its way to the Jhēlum above Dārāpur (near Dilāwar) as far west as the route descending past the coal-mines of Dandōt to

¹ Here it may be mentioned in passing that the story told by Philostratos of the visit paid by Apollonius of Tyana to the sacred hill of the Indian gymnosophists situated east of Taxila might well have been prompted by a recollection of some notice of Yōgī Tilla as derived from accounts of Alexander's Indian campaign. That Philostratos used such accounts for embellishing the story of his hero's Indian peregrination is certain.

For a supposed reference to Yōgī Tilla in Plutarch, *De Fluviiis*, cf. Cunningham, *Archaeol. Survey Report*, ii. p. 177; also *Ancient Geography*, p. 165.

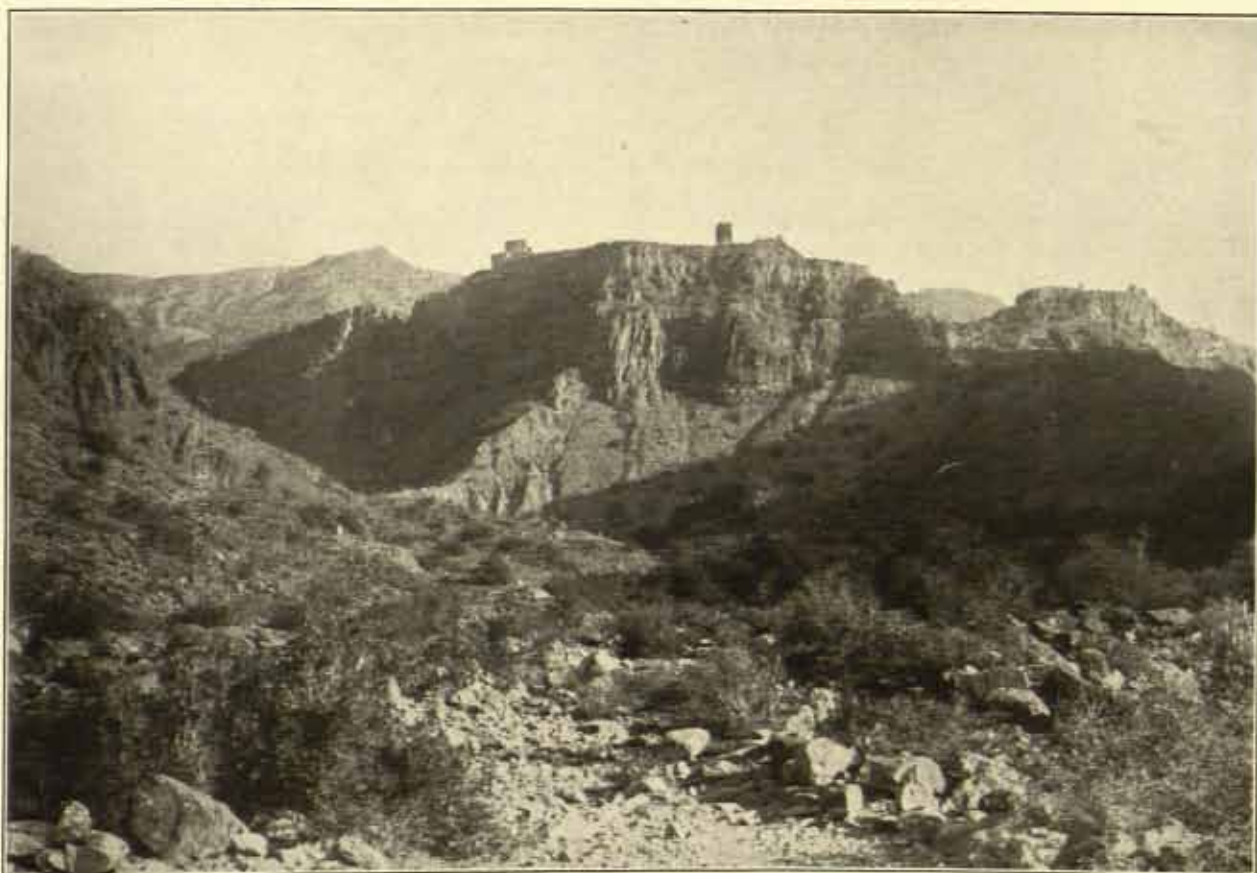
² On November 24th, when passing down the narrow but comparatively fertile belt separating the right bank of the river from the foot of the hill chain, I noticed mounds marking early occupation at two points between Jhēlum town and the mouth of the Bunhā bed. Near the village of Rariāla, about 8 miles below Jhēlum and close to the west of the

road, a large mound, over 100 yards in diameter and rising to about 17 feet above the surrounding fields, attracted attention. Among the plentiful broken pottery covering the slopes, pieces of good red ware painted with simple black or brown designs or decorated with incised geometrical patterns (see Rar. 9, 12; Pl. I) were numerous. Their type suggested occupation in early historical times, and a copper coin picked up on the surface and belonging apparently to a late Kushān issue supported this assumption.

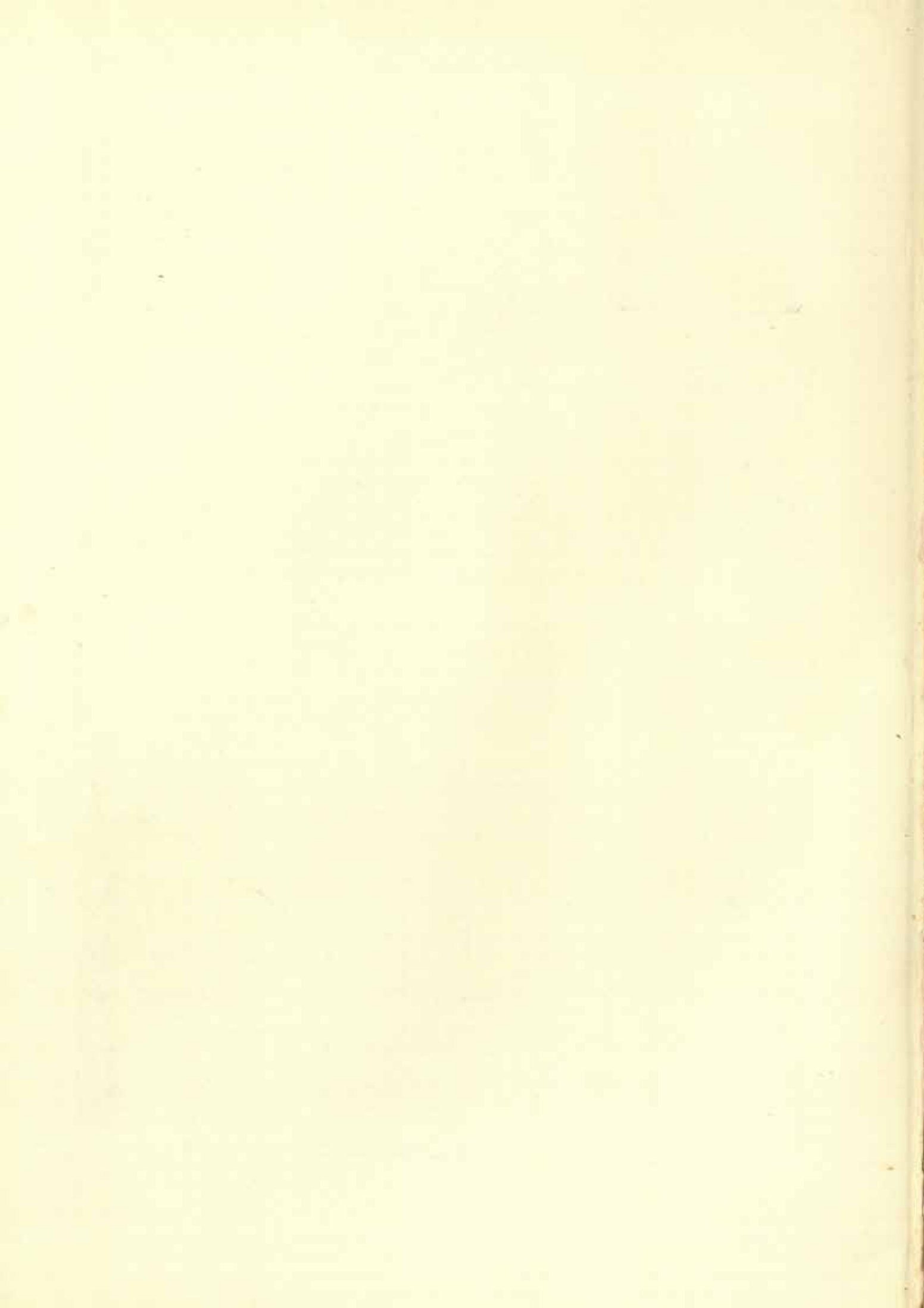
Another large mound measuring about 120 by 90 yards and rising up to 10 feet in height was met with by the road-side close to Khurd village some 6 miles farther on. Here, too, the potsherds showed a type which in the case of corresponding decorated ware found at sites of British Balūchistān I was induced tentatively to designate as 'early historical' (cf. *Archaeological Tour in N. Balūchistān*, pp. 8 sqq.).



1. APPROACH TO BATIĀLA GATE OF ROHTĀS FORTRESS



2. STRONGHOLD OF NANDANA, SEEN FROM VALLEY BELOW BĀGHĀNWĀLA



Pind Dādan Khān. The last-named route was undoubtedly followed by a later great invader of India, the Emperor Bābur, when he made his first successful inroad into the Panjāb across the Salt Range. Coming from the Peshawar side, he crossed the Indus on February 17th, 1519, as we are told in his famous *Memoirs*. Having by three long marches reached the lake of Kallar-kahār, he thence crossed the pass of Dandōt and descended to the Jhēlum, east of Old Bhēra, on February 21st.³

The four routes above referred to are, in order from east to west, those leading past the villages of Bāghānwāla, Chanuwāla, and Kusak, and the one descending to the salt-mine of Khewra. It is not necessary to concern ourselves with each of these routes, though I took occasion to visit all of them; for fortunately there is one among them, the first, to which historical records of an invasion far older than that of Bābur were bound to attract my special attention.

Muhammadan chronicles of India repeatedly mention the fort of Nandana and the pass in the Salt Range guarded by it in connexion with the campaigns by which Maḥmūd of Ghazna carried the sway of Islām into north-western India, and also with later events down to the thirteenth century. The merit of having first correctly located this place, examined its surviving remains, and recognized the importance of the route passing it, belongs to my friend, the late Mr. W. S. Talbot, C.S.I., of the Indian Civil Service. While holding charge of the Jhēlum District and in course of the Settlement conducted by him there, he took a close interest in its antiquities and historical past. He found the name *Nandana* still attaching at the present time to a remarkable hill stronghold (see Figs. 2, 7, 11) which completely closes a route leading down steeply from a plateau of the eastern branch of the Salt Range to the village of Bāghānwāla and the open riverine plain of the Jhēlum beyond it.

Before I discuss the early historical references to Nandana and the bearing of its position upon the question of Alexander's route to the Hydaspes and his subsequent passage of the river, I may appropriately quote the brief but very apt description of the position from Mr. Talbot's *Gazetteer of the Jhelum District* (p. 46): 'About fourteen miles due east of Choa Saidān Shāh, between the villages of Bāghānwāla and Āra above, the outer Salt Range makes a remarkable dip; the road over the hills winds up the face of a steep rocky hill, with perpendicular precipices at the sides: so that in former times the holder of this hill had the absolute command of what is one of the most obvious routes across the range.'

³ See *Memoirs of Bābur*, transl. by Mrs. Beveridge, pp. 381 sqq. The mention of Kalda-kahār, i.e. Kallar-kahār, and Bhēra as the two terminal

points of this rapid march leaves no doubt that by the *Hamṭālu* pass the Dandōt pass is meant, the initial Arabic letter *d* being easily misread into *b*.

Nandana figures repeatedly in the accounts of the successive campaigns which carried the great conqueror Sultān Maḥmūd of Ghazna from eastern Afghānistān into the plains of the Panjāb. Its position is clearly indicated by the events in connexion with which it is mentioned. These leave no doubt about its having been an important stronghold of the last rulers of the Hindu Shāhiya dynasty, after it had been forced to retreat to the extreme north-west of the Panjāb from its former possessions west of the Indus.⁴ Without going into such references to Nandana as occur in the often confused accounts of Maḥmūd of Ghazna's campaigns given by later Muhammadan chronicles,⁵ I may confine myself here to those notices which at present can be checked in critically made extracts from contemporary sources as presented by Dr. Muhammad Nazim in his *Mahmūd of Ghazna*.

Thus we are told of Sultān Maḥmūd that, intending to crush the power of the Shāhi ruler Trilocanapāla in the Salt Range, he set out in March, A.D. 1014, 'and marched to Nandana which, situated on the southern spur of the Salt Range, commanded the main route into the Ganges Doāb'.⁶ I shall have occasion farther on, when describing the ruins of Nandana, to discuss the details recorded as to the brave defence offered by Bhīmapāla Shāhi, the king's son, in the 'strong position between two hills at the junction of which the fort was situated'. The account tells us how, after prolonged fighting beyond the upper entrance of the pass, the Hindu defenders were driven back into the fort, and this was besieged and ultimately taken by the Sultān. The importance attaching to the route thus opened is attested by the special mention made of the Muhammadan commander to whom Maḥmūd entrusted Nandana when he returned to Ghazna after having pursued the fugitive Hindu king into the mountains south of Kashmīr.⁷ An earlier notice, relating to an attempted invasion made A.D. 991 from the east by the ruler of Lahore, gives Nandana as the name of a whole district adjacent to Jhēlum, and thus helps to bring out the importance of the place and of the route past it.⁸

In the following section I shall describe the interesting observations, archaeological and topographical, which our survey of the Nandana fort and its surroundings yielded. Here I may turn at once to the very useful indications which

⁴ I have discussed the interesting historical notices concerning the 'Hindu Shāhiya dynasty' to be gathered from Albēruṇi's *Tārīkh-al-Hind* and Kalhaṇa's *Kashmīr Chronicle* in my paper 'Zur Geschichte der Čāhis von Kābul', contributed to the *Festgruss an Rudolf von Roth* (Stuttgart, 1893), pp. 198 sqq. Cf. also *Rājatarāṅgiṇī*, transl., my notes on v. 152-5; vii. 47-69.

⁵ See, for such accounts, Elliot, *The History of*

India, as told by its own Historians, ii. pp. 434 sqq.

⁶ Cf. *Mahmūd of Ghazna*, p. 91.

⁷ See *ibid.*, p. 93.

⁸ Cf. *ibid.*, p. 195. References to Nandana in connexion with events of the thirteenth century are quoted by Mr. W. S. Talbot, *Gazetteer of the Jhelum District*, p. 47, from Duff, *Chronology of India*, i. p. 536, and Raverty's *Tabaqāt-i-Nāsiri*, p. 539.

this oldest of historically attested routes across the outer Salt Range affords as regards the location of Alexander's camp on the Hydaspes and the place of his crossing the river. The Skeleton Map 1 shows that the road from the pass and fort of Nandana descends first to the pleasant village of Bāghānwāla with its abundant orchards, and thence, if continued south-south-west across the gently sloping alluvial plain below, brings us after about 9 miles to the large village of Haranpur close to the bank of the river. It is just here that the river, flowing in a single channel within a well-defined bed about half a mile wide, offers a very convenient crossing-place, now marked by the bridge of the Sind-sāgar line of the North-Western Railway. On the opposite side of the river, at a distance of about 5 miles, lies the old town of Miānī, once a place of distinct importance.

Now, if we go from Haranpur up the river, but at some distance from it, along the main road towards Jhēlum town, we come, at a distance of about 17 miles, to the small town of Jalālpur (Fig. 3) occupying a position that corresponds in a very striking fashion to Arrian's and Curtius's description of Alexander's crossing-place. Jalālpur, counting some three thousand inhabitants, is built on rising ground at the foot of a great projecting spur of the Salt Range. Close behind the town this rises in the hill of Mangal Dēv to a triangulated height of 1,833 feet, or a little over 1,100 feet above the river bed. Immediately to the east of the town there lies the wide winding mouth of the Kandar Kas (Fig. 4), a torrent bed with sandy bottom descending from the spur and joining the river. On the east it is overlooked by steep heights marking the point where the face of that spur turns from a west-south-west direction to north-west. Within less than a mile of the town there passes a northern branch of the Jhēlum, carrying much water at the time of the summer floods and known as the Halkiwānī Nālā. Jalālpur lies at the south-western corner of that projecting spur of the Salt Range which, as mentioned before, is washed at its foot by the river for a distance of about 8 miles between Dilāwar and Jalālpur. Nowhere else along its course after debouching from the mountains does the Jhēlum touch ground which could possibly be described as a headland or promontory (ἄκρα).

The spur all along falls off very steeply towards the river and is broken by many deep-cut ravines. Only at the mouth of the latter is there room for scanty fields cultivated by three small hamlets. The road to Jhēlum town, which used to run along the very foot of the spur and is still marked in Survey maps down to 1921, has been so badly broken in places by recent floods that for the sake of motor traffic it had to be re-aligned with no small trouble across the difficult ridges and ravines farther up. From the appearance of the cliffs above the river it is clear that its course in historical times must have always set against the foot of the spur.

The consequent difficulty of maintaining communication along this portion of the river bank deserves to be specially noted; for it precludes the idea that demonstrations by large numbers of troops, such as Arrian and Curtius relate to have been repeatedly made from Alexander's camp, could have taken place here. Yet Cunningham's location of this camp at Jalālpur would presume this. For the same reason it would have been impossible to find room here for the force under Meleager, which we are told was posted by Alexander half-way between his camp and his selected crossing-place, if these had really been Jalālpur and Dilāwar, respectively, as Cunningham assumed.

At Jalālpur, on the other hand, all physical features are in the closest agreement with the facts recorded about Alexander's crossing-place.⁹ There is the headland overlooking the river at a distinct bend; there is the ravine of the Kandar Kas between Jalālpur town and the point where the spur turns off sharply from the river; there are still plenty of such trees and bushes as the arid climatic conditions of the present day permit of, growing on the slopes east of Jalālpur and to the south of the town towards the river bank; and, what deserves to be specially noted, there is a large island stretching down from opposite Jalālpur between the Halkiwānī and the present main bed farther south.

Where the winding bed of the Kandar Kas debouches to the north-east of Jalālpur it is overlooked on either side by bold hillocks rising to 300 feet (Fig. 4, Skeleton Map 1). At its nearest bends there adjoin stretches of fairly level ground now under cultivation. Thus the bed here corresponds exactly to the *præalta fossa*, or deep ravine, which Curtius mentions as lying not far from the river bank and 'capable of hiding not only foot-soldiers but also men with horses'. There are large groves of trees and bushes growing on the ground which separates the town from the river bed. This wooded ground would thus admirably serve to screen preparations for an intended crossing, a point referred to in Arrian's description.¹⁰

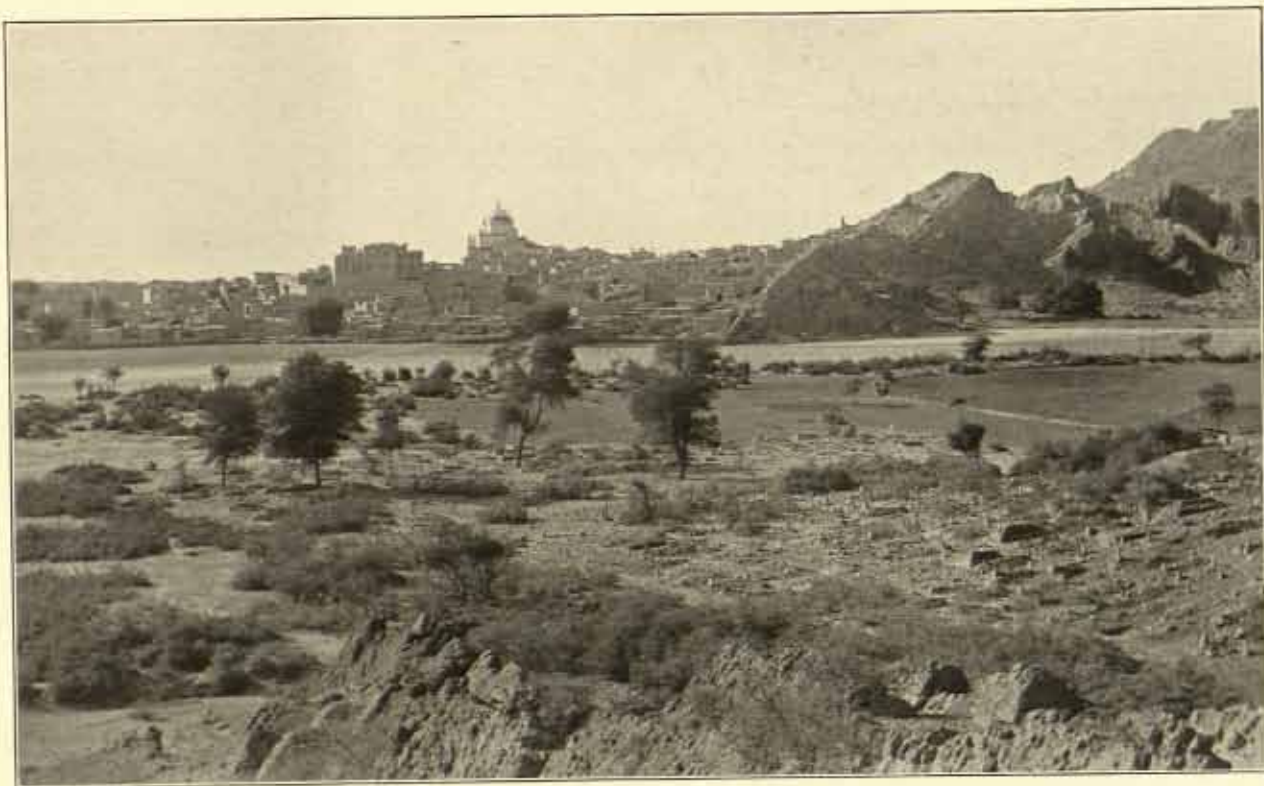
The Halkiwānī bed, where we rode across it on November 26th, close to the wide sandy mouth of the Kandar Kas was partially dry, and about 55 yards wide.

⁹ This close agreement of the physical features had been correctly noted already by Sir Mountstuart Elphinstone when he reached Jalālpur in July, 1809, returning from Peshawar across the Salt Range. Referring to its hills he says: 'They came to the edge of the river which, being also divided by islands, presents exactly the appearance one expects from the accounts of the ancients. So precisely does Quintus Curtius's description of the scene of Poros's battle correspond with the part of the Hydaspes where we crossed that several

gentlemen of the mission, who read the passage on the spot, were persuaded that it referred to the very place before their eyes.' See Elphinstone, *An Account of the Kingdom of Caubul and its Dependencies, in Persia, Tartary and India, &c.*, revised edition, 1842, i. p. 109.

Here, too, we note the true eye for topography of that great administrator and student of geography of whom it was not in vain said that 'he could look through the mountains'.

¹⁰ See above, p. 12.



3. JALĀLPUR TOWN, SEEN FROM EAST ACROSS BED OF KANDAR KAS



4. MOUTH OF KANDAR KAS, SEEN FROM BELOW MANGAL DĒV SHRINE

But from the middle of April until August it carries a large volume of water, inundating both banks, and is then quite unfordable, a ferry being regularly maintained at the mouth of the Kandar Kas. For the preceding three years the current had at the head of this river branch set increasingly towards Jalālpur (see Skeleton Map 1), apparently as a result of exceptional floods having come down from Kashmīr. The extent of the inundation caused was marked by large trunks of timber we found left on the opposite bank for a distance of about 550 yards before reaching the cultivated portion of the island. The island is occupied by the small hamlet of Admāna and scattered groups of homesteads reckoned with it. The fact of the whole of the cultivated area of Admāna being included within the boundary of the Gujrāt District to the south suggests that at a time not very distant the main branch of the river lay approximately along the Halkiwānī bed.

The length of the island is shown by the one-inch map of the Survey, No. 43. H. 6 (1911) as slightly over 6 miles in a direct line. Our rapid plane-table survey of the island indicated practically the same length, a reduction of about half a mile at the lower end of the island where the Halkiwānī rejoins a southern channel of the river being compensated by a corresponding accretion at the upper. The maximum width of the island on a line passing Admāna hamlet is close on $1\frac{1}{2}$ miles, and has remained unchanged since 1911. High tamarisk and other bushes cover a great deal of the ground left uncultivated, and in a 'Reserved Forest' area, known as Mājhi Rakh, a thick wood of fine trees has grown up.

It is certain that the island of Admāna as it exists now is by far the largest of any which the Survey maps show in the Jhēlum within the whole length of its course that can come into consideration here. This point deserves to be specially noticed. Though islands in a river like the Jhēlum are liable to changes, yet the general course of the river and the character of its bed just along this section are not likely to have changed greatly during the last two thousand years or so; for they are here largely determined by two permanent geographical features, the Jalālpur-Dilāwar hill spur on the one side and the high ground at the end of the Pabbi range facing it on the other.

Curtius tells us that the island which masked Alexander's crossing was 'larger than the rest, wooded and suitable for concealing an ambuscade'.¹¹ If we then assume that in Alexander's time there stretched from below Jalālpur an island much of the same size and type as the present island of Admāna, it is easy to follow the successive phases of the crossing as recorded by Arrian. Moving down a channel approximately corresponding to the present Halkiwānī, the

¹¹ Cf. above, p. 12.

boats and rafts would carry Alexander's troops to the junction of that channel with another more southerly river branch. Then on being rowed across the united river course they would be able to land on what might well appear to them as the mainland on the river's left bank. In reality it proved another island 'and that a great one . . . separated from the mainland by a branch of the river in which the water was shallow'. Arrian's account brings vividly before us the unexpected obstacle presented by the swollen condition of this channel, and how this most critical phase of the bold enterprise was met by Alexander's unflinching determination and the pluck of his hard-trying Macedonians.¹²

An experience of our own helped curiously enough to illustrate this episode. We crossed the present main bed of the river due south from the present lower end of the Admāna island, where the Halkiwānī joins it. Apart from large pools, we found the main bed dry at that season up to where after about three-quarters of a mile a shallow stream, about 250 yards wide and nowhere more than 2 feet deep, had to be forded. Then, continuing for nearly a mile in the same direction, over ground which had all the appearance of mainland, having in part been taken up recently for a 'Reserved Forest' area, we came unexpectedly upon a small channel with flowing water, only some 50 yards wide. Quite shallow at the time, it was declared to be unfordable during the time of the summer floods, as proved by a small ferry-boat kept on its bank. It had obviously formed since the last survey was made in this area more than twenty years before. Beyond it we soon reached the edge of the fertile tract now irrigated by the Lower Jhēlum Canal near the village of Nūrpur.

It is on the absolutely open and flat ground stretching to the south of the left bank of the river towards Malakwāl and Miānī that we must assume the battle with Poros to have been fought. But neither available records nor the examination of the ground made on November 26th and 27th supply evidence that would make it possible to determine the exact position of the battle-field. We have no definite indication as to the distance between the place where Alexander reached the mainland and the position where Poros's army was encountered. But Plutarch in his *Life of Alexander* (Chap. LX) mentions that Alexander after crossing it had ridden forward about 20 stadia (about 2½ miles) in advance of the infantry by the time he fell in with a small Indian force of horsemen and chariots sent out against him.

Two points, however, deserve to be noted. One is the perfect openness of this ground allowing ample room for the extensive line in which Poros marshalled his army. The other is that room was left between its left wing and the

¹² The danger which attended the fording of this channel is strongly brought out also in Plutarch's *Life of Alexander*, LX.

river for the cavalry attack on the Indian left flank as indicated by Arrian's text.¹³ With regard to the latter point it is of interest to observe that the present main river bed makes a considerable bend to the north-west of Nūrpur, leaving between it and the village of Kōt Hast (north of Bādshāhpur) a triangular stretch of ground with its apex near the hamlet of Sikandarpur (see Skeleton Map 1). If this bend existed already in antiquity it would make it easy to understand why Poros did not rest his left flank on the river. For if his army started from a place somewhere opposite Haranpur, i.e. from some point between the present towns of Malakwāl and Miānī, the direct line, as the map shows, for an advance to meet the landed Macedonians would have kept the Indian army away from the river anywhere near that bend.

Since we cannot locate the battle-field it is also impossible to determine the site of Nikaia, the town which Alexander is said to have founded there to commemorate his victory. To the south of the river's left bank, below the point where it may be assumed to have been reached by Alexander crossing from Jalālpur, there are to be found the large villages of Bhagowāl, Haria, and Bādshāhpur, at distances of 1 to 2 miles from the river, besides a number of smaller ones. The former, of town-like appearance and numbering 700–800 closely packed houses, are all built on mounds rising well above the alluvial plain and marking prolonged occupation. Owing to the fertile agricultural area around them they are flourishing places; but I found no indication which would justify even a tentative identification of any of them with the site of Nikaia.

About a mile to the east-north-east of the town of Malakwāl and at a direct distance of some 7 miles from Nūrpur there rises near the village of Kotehra a large and conspicuous mound, its top occupied by a much frequented *ziārat* and known as Jhandīwāla Tibba. It measures at its foot some 310 yards from north to south and about 250 yards across. Its height is over 20 feet. It has been dug into extensively for saltpetre and manuring soil. The salt efflorescence (*sbōra*) which covers the surface and affects all potsherds, impedes the search for such ceramic remains as might afford some chronological indication. Nor could I learn at the time of my visit of any coin finds. That the site is an old one is, however, evident from the height of the mound.¹⁴ Malakwāl town, on the other hand, appears to be a recent place, owing its relative importance to the vicinity of the canal colonies served by the railway line for which it is the junction.

If Nikaia escapes definite location, we are in a better position as regards

¹³ See above, p. 14.

¹⁴ Here reference may be made to an extensive mound visited on November 26th some $3\frac{1}{2}$ miles due south of Nūrpur and situated a short distance to the west of the village of Sahna. It measures

about 330 yards in diameter and has an average height of 12 feet. Judging from decorated fragments among the abundant pottery with which the surface is covered, the site appears to have been occupied in medieval times, if not earlier.

Boukephala, the town founded by Alexander on the right bank. Since Strabo distinctly places it at the point where Alexander embarked for his passage, and Arrian's reference is compatible with the same interpretation, we may safely locate it at Jalālpur.¹⁵ In support of this it may be noted that coins found at Jalālpur include issues of the Greek kings who ruled in parts of Afghanistan and in the north-west of the Panjāb. As already noted by General Cunningham, the numismatic evidence afforded by these coins and the still more frequent ones dating from Indo-Scythian rule clearly proves occupation of the site during the centuries immediately before and after the beginning of the Christian era.¹⁶

Jalālpur in former times enjoyed a considerable share in the flourishing trade of timber which is brought down by the river from the great conifer forests of Kashmīr and the adjacent high valleys. Since the construction of the Grand Trunk Road, and still more since the advent of the railway, this timber trade has for the most part become concentrated at Jhēlum town. The convenient supply of timber obtainable at Jalālpur accounts for the mention which Curtius and Diodoros make in connexion with the site of the shipbuilding operations carried on at Boukephala in preparation for the subsequent voyage down to the mouth of the Indus.¹⁷ The mention made of Boukephala by Ptolemy and Pliny and in the *Periplus maris Erythraei* points to the place having retained its local importance for centuries.¹⁸

At this point my observations concerning the scene of Alexander's great exploit might have been brought to conclusion were it not that some remarks seem called for with regard to the comments to which Professor Breloer, in a supplement to his work *Alexanders Kampf gegen Porus*,¹⁹ has subjected my views as first set forth in my paper published in the *Geographical Journal* of July, 1932. I can consider the length of these comments only as an acknowledgement of the weight which the result of my investigations, if accepted, must carry against the

¹⁵ Cf. above, p. 15, and Strabo, *Geographia*, xv. xxix. Diodoros, xvii. lxxxix. 6, places the town wrongly on the left bank of the river.

Pseudo-popular tradition, now prevalent in the Jhēlum District, recognizes the tomb of Boukephalos in the Manikyāla Stūpa south-east of Rawalpindi. It is an amusing instance of the facility with which fancy identifications once suggested by amateur antiquarians and propagated by the schoolmaster take root in Indian local belief.

¹⁶ Cf. Cunningham, *Archaeol. Survey Report*, ii. p. 187.

During our stay at Jalālpur several Kuṣāna copper coins were acquired. A well-preserved silver coin of Menander was also shown by a local Hindu trader.

General Cunningham, *loc. cit.*, was rightly prepared to identify Jalālpur with Boukephala. But he apparently did not recognize that by doing so and yet looking for the place of passage at Dilāwar he came into direct conflict with Strabo's definite statement. It is one of those instances where true antiquarian instinct, as it were, led the eminent first explorer of India's ancient sites to arrive at identifications which have proved right notwithstanding the inconclusive or otherwise defective arguments he had advanced for them.

¹⁷ See Curtius, ix. i. 4; Diodoros, xvii. lxxxix. 4.

¹⁸ Cf. Pliny, *Hist. nat.* vi. 20; Ptolemy, *Geographia*, vii. 46; *Periplus*, sec. 47, also M'Crindle, *Ancient India*, p. 36.

¹⁹ See pp. 194-204.

learned author's own location of the passage of the Hydaspes and the battle with Poros. But since I have already had occasion above not merely to re-state that result as I see it now, but also to indicate fully the strong topographical arguments against Professor Breloer's location, I may be excused if I make my reply brief and confine it in the main to the rectification of certain difficulties raised as regards my determination of local details.

Before, however, I take these point by point, I wish to acknowledge that when I wrote my paper in the field, with only a minimum of books at hand, Polyænos's mention of an attempt at resistance to Alexander's move towards the Hydaspes had escaped me.²⁰ No indication is given as to the position of the narrow valley where it is said to have occurred, and as more than one such valley must be passed on any route leading across the Salt Range past Nandana, this stray reference fails to afford any guidance.²¹

With regard to the first difficulty raised in Professor Breloer's comments which concerns Arrian's ἀκρᾶ (p. 200) I may point out that it has been recognized by me in that precipitous spur projecting from the Salt Range which terminates with its south-western corner just opposite to Jalālpur above the eastern bank of the Kandar Kas. It is this great headland conspicuous all over the riverine plain to which I take Arrian's description to refer. There is nothing in my previous description to account for the misapprehension indicated by the remark 'Sir M. A. Stein bezeichnet als Vorgebirge die Höhe westlich von Jalālpur'. I can only assume that my mention of Jalālpur town being 'built on rising ground at the foot of a small outlier of the range' has been wrongly understood here as referring to the spur which ends *east* of the town. That this spur is at its foot washed by the river at flood time for a distance of about 8 miles from below Dilāwar down to about a mile of Jalālpur is seen from the Survey maps. The appearance of the cliffs along the foot of the spur for some

²⁰ Cf. *ibid.*, p. 198.

²¹ The omission has since been made good above, p. 11. I have similarly taken occasion to rectify the erroneous statement on p. 35 of my paper about Koinos's cavalry at the outset of the battle having been detached to Alexander's right. The expression ἐπὶ δεξιόν, as used in the context of Arrian, v. xvi. 2, must, as Professor U. Wilcken was kind enough to point out to me soon after my paper was published, refer to the Indian right. The same wrong interpretation, however, had been adopted before by other commentators (Rüstow, Droysen, Bauer; cf. Veith, 'Der Cavallerie Kampf in der Schlacht am Hydaspes', *Klio*, viii. p. 133).

I may acknowledge here also that Professor Breloer, p. 197, was justified in traversing the brief

reference made by me on p. 39 of my paper to 'the improbability of the leader of an army relying largely on the use of elephants and chariots having chosen the narrow stretch of tolerably flat ground between the river's left bank and the broken hills and ravines of the Pabbi range at his back as the place where to meet a formidable invader'. It is more reasonable to believe that the route of advance taken by the invader would determine the position in which Poros as the defender of the river line would be induced to meet him. Full allowance has been made for this consideration in my remarks above, pp. 21 sq. There the general defensive strength of the 'bridge-head' opposite Jhēlum has been duly recognized, notwithstanding the disadvantages presented by the ground in certain respects.

distance above Jalālpur clearly shows that the river's course has for ages set against it, as already stated above (p. 27). There, too, the volume of water carried by the Halkiwānī bed at flood time has been clearly demonstrated.

The second difficulty raised as regards the identification of the Kandar Kas with the *praealta fossa* of Curtius is equally groundless. Though the left bank of the torrent bed at its debouchment half a mile above Jalālpur town is shown by the one-inch map No. 43. H. 6 at 730 feet and hence, as Professor Breloer assumes, about 30 feet above the level of the river, ocular inspection makes it certain that the bed near its mouth, fully $1\frac{1}{2}$ miles lower down, must be sufficiently filled with water from the river to permit the easy launching of boats and rafts. This is fully supported by the statement received during my stay at Jalālpur that during the three preceding years the river floods had repeatedly reached close to the temples and rest house just outside the town. That the bottom of the Kandar Kas is sandy near its mouth and also where it passes the town would not, as suggested, have interfered with the assembly of troops on the wide clay terraces on either bank near and above the town.

That the bend in the river course which Arrian mentions in connexion with the ἄκρᾱ is at the spur above Jalālpur very much smaller than the one below Mangla is certain. But it should be remembered that the bend exists, and that the boldness and mass of the projecting spur as seen from the flat riverine plain must necessarily increase the impression of the bend made by the river round its foot for any one not provided with a map. As regards the fourth observation bearing on the river channel which, unsuspected before, proved so serious an obstacle after the crossing, it will suffice to point out that the formation of such minor beds is quite a regular feature in a river such as the Jhēlum passing over a wide alluvial plain. What has to be kept in view is the fact that Arrian (v. xiii. 2) distinctly speaks of a river branch and not of a torrent bed such as the Jabar Nālā at the foot of the Mangla hills. Just because this torrent bed is a permanent and well-marked feature it could have easily been observed well before from the height above the supposed starting-point at the Pothawāla Kas.

The next point concerns the wooded island which screened the place selected from the crossing. Regarding it we have Curtius's definite statement (viii. xiii. 15) that it was 'greater than the rest', though Professor Breloer finds it convenient to distinguish it as 'the small island' (p. 202). The exceptional advantages which a large wooded island like Admāna must have offered for screening such protracted and extensive operations as the assembling and embarkation of a considerable force and its crossing are so obvious that, compared with the evidence thus afforded by physical features, the fact of this island nowadays being partially

inhabited cannot be treated as a serious objection. The advantages provided by so large an island were all the greater, because by taking his troops on boats and rafts along it for a considerable distance down the river, Alexander could bring them much nearer to the enemy, and thereby increase that advantage of surprise which necessarily counted for much in his hazardous enterprise. Nor can we ignore the fact that the flatness of the opposite bank was bound to add greatly to the effectiveness of the screen, whereas the supposed crossing-place below Mangla lies within full view of the ridge opposite, some 200 feet higher and only about $2\frac{1}{2}$ miles away.

The remaining three points specifically brought forward against my location of the crossing-place can be dealt with succinctly. The ground upon which the landing took place and which was mistaken for solid land is definitely described by Arrian (v. xiii. 2) as a great *island* 'parted from the other side by the river'. Of the ground supposed to have been reached below Mangla Professor Breloer himself speaks as 'tatsächlich Festland'. The road leading from Haranpur to Jalālpur, which I assume Alexander to have followed on his secret march from his main camp to the latter place, lies throughout across cultivated ground with plentiful tree growth as the maps show. It nowhere approaches the river bank closer than 2 miles, and for the most part lies farther away from it. The distance on the road between the two places is recorded in the Survey map No. 43. H. NW. as 17 miles, corresponding as closely as may be to the 150 stadia of Arrian. On the other hand, the distance between Jhēlum town and the Pothawāla Kas, as shown in Professor Breloer's sketch-map, presumably prepared from the Survey of India's 1-inch sheet, is only a little over 14 miles, even on the somewhat devious route marked by him. The reference made by Arrian (v. xii. 1) to the reserves under Meleager, Attalos, and Gorgias posted half-way between the great camp and the intended crossing-place affords no topographical criterion as the position is not otherwise specified.

As regards the concluding remarks of Professor Breloer's critique which concern the site of the battle, it will suffice to say that, as already plainly stated in my paper^{21a} and repeated above, I hold it 'quite impossible to determine the exact position of the battle-field'. I clearly stated above that we have no definite indication as to the distance from the place of landing to where the main force of Poros was encountered.²² Hence the belief attributed to me that Poros

^{21a} Cf. *G.J.*, July, 1932, p. 43.

²² Nor has the fact that our crossing of the river bed due south of its present junction with the Halkiwānī Nālā (fully half a mile above the one shown in the 1-inch map of 1911) brought us to the vicinity of Nūrpur village been sufficient to

induce me to place Alexander's final landing exactly at this spot, as assumed by Professor Breloer (p. 204). This caution, imposed on the one hand by regard for river-line changes on such ground and on the other by the inadequacy of our extant sources, disposes of the imputed inconsistency.

marched 10 miles from his camp opposite Haranpur to where he encountered Alexander, can only be due to some misapprehension.

The incidental reference made by me to the small village of Sikandarpur as situated at the apex of a triangular stretch of ground which remains on the left bank of the river owing to a north-western bend of the present river bed, has suggested to Professor Breloer that the name of this little place may have unconsciously played a 'bestimmende Rolle' in my location of the battle-field. In this respect he may rest assured that the many years spent by me in the Panjāb, where the name Sikandar is so common in personal as well as local nomenclature, would alone have sufficed to render me immune against being influenced, consciously or unconsciously, by the chance occurrence of such a modern name.

SECTION IV—THE PASS OF NANDANA AND ITS RUINS

General Cunningham already had called attention to a local tradition at Jalāl-pur that the town in ancient times had extended in a west-north-west direction for miles along the hill slopes. I first took occasion to examine the ruins supporting this tradition, collectively known by the name of Girjhak, when paying a visit to the conspicuous Hindu shrine of Mangal Dēv (Fig. 9). This occupies the top of a gently sloping shoulder of the hill chain which rises to the height of 1,833 feet north-west of Jalāl-pur. A steep path, partly paved and evidently old, leads up to the temple past sharply tilted conglomerate strata eroded into fantastic shapes. Neither the extant temple nor the mosque close by, both situated about 400 feet above the plain, look old; but the terraces below them are covered with the debris of dwellings built with rough stones and completely decayed. Here were picked up some painted and incised potsherds (see Gir. 4, 5, Pl. 1), decorated in a style closely recalling that found by me on pottery from sites on the North-West Frontier and in Northern Balūchistān, which can be tentatively dated between late prehistoric and early historical times.¹ A well-polished surface is found both on red and grey ware.

When I subsequently proceeded along the steep rocky slopes towards the spur descending to the hamlet of Chitti, about a mile farther to the west, I found remains of similarly built dwellings covering whatever tolerably level space was afforded by terraces or tops of ridges. The position of these ruins reminded me strongly of that occupied by the 'Kāfirs' houses', so common on the hill-sides of the Peshawar and Swāt valleys and dating from the Buddhist period. But here

¹ Cf. Stein, *Archaeological Tour in Northern Balūchistān*, pp. 8 sqq., 53, &c.

the construction was much coarser. Subsequently I traced plenty of similar ruins of much decayed dwellings, built with large roughly laid blocks of stone, all along the slopes as far as the village of Ratwāl, about $2\frac{1}{2}$ miles from Jalālpur. Here, too, pottery of the old type referred to above was plentiful. The specimens reproduced in Pl. I show painted annular lines (Rat. 13) or ribbing and other moulded ornamentation (Rat. 1, 4, 7, 11). Judging from the number of these structures and their position, I was led to conclude that a considerable population built its homesteads on these slopes, perhaps partly to save all fertile ground below for cultivation and partly for greater safety.

I may now proceed to give an account of the route leading down from the Salt Range through the pass of Nandana, and of the remains of the ancient stronghold, a true *chiusa*, which guarded it. I was able to make a close examination of them, with the help of Dr. Fábri, between November 28th and December 2nd, after having gained the upper approach of the pass at the rest house of Āra by a march of about 17 miles from Jalālpur. The route starting from the village of Āra may, in view of the explanations given in the preceding section, well claim our interest as the main one that saw Alexander's forces descend to the bank of the Hydaspes. About 2 miles to the south of Āra the outer or southern one of the two more or less parallel chains of hills into which the highest portion of the Salt Range is here as elsewhere divided, dips down steeply towards the riverine plain.

Between the two chains there extends a series of small open valleys, fertile at their bottoms and situated at elevations between 2,000 and 3,000 feet approximately. Approach to these valleys is easily gained by several roads which traverse the broken, but all the same for the most part carefully cultivated, plateaux stretching to the west of the Grand Trunk Road and the railway line between Taxila and Jhēlum. The distance between Taxila and Āra, approximately 72 miles in a straight line, but necessarily a good deal longer by road, could readily be covered by five or six marches of ordinary length. But we shall never know which of the several practicable routes between the two places, past Rawalpindi or Chauntra, Chakwāl or Dhudiāl, and other localities of larger size, are likely to have been followed by Alexander's army; for no definite indications are recorded.

Near the village of Āra there extends an open plateau, over 2 miles across and well provided with water. Sloping up gently towards the watershed it would have afforded a very convenient place for assembling a force before its descent to the river. We must assume that on this plain, more than thirteen centuries after Alexander's passage, there took place that battle between Maḥmūd of Ghazna and Bhīmpāl Shāhi, which the Muhammadan chroniclers mention as

having preceded the former's siege of the fortress of Nandana A.D. 1014.² From the elevated ground of the Āra plateau, at a height of about 2,400 feet, a steep winding road leads down over the rocky scarp of the range for close on 2 miles to where a small dip, about 200 yards across, at an average level of 1,300 feet stretches between two small valleys drained by streamlets which farther south unite below the ruined stronghold of Nandana (see Plan 3).

The road so far, though very stony, is perfectly practicable for laden animals, including camels, even in the neglected state into which it has fallen since most of the local traffic from this part of the Salt Range to the river has been diverted to the Grand Trunk Road in the east and to the road practicable for carts between Chakwāl and Pind Dādan Khān in the west. Here and there remains of a roughly paved road, about 8 feet wide and probably old, could be traced for short distances. In a number of places the road shows distinct marks of having been cut into rock ledges, obviously to secure a better gradient. Though perhaps not so well alined, it reminded me of the ancient roads constructed in Buddhist times across the passes of Malakand, Shāhkōt, &c., connecting Lower Swāt with the Peshawar valley.

Immediately above the dip referred to, which forms a kind of natural fosse, there rises very abruptly the bold rocky ridge of Nandana. On its top, at a height of about 1,500 feet above sea-level, it bears conspicuous ruined structures, and along the precipitous northern slopes below these, the remains of a boldly built line of wall, defended by bastions (Fig. 11). This fortified ridge completely bars further descent on the route, for the two small valleys above-mentioned contract on either side of it into deep and extremely narrow gorges, and descend for some distance between almost vertical rock walls, hundreds of feet high (Figs. 2, 7). These gorges are completely commanded from the ridge and would allow of no passage, even to men on foot, as long as the ridge was defended. Nor could the steep heights towering above be readily climbed, and the ridge bombarded from them with arrows or other missiles.

The wall defending the northern face of the ridge runs with projecting angles from the foot of a very massive pile at the north-eastern end of the top to a

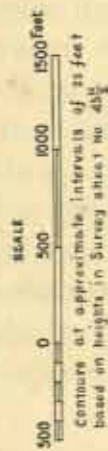
² 'Bhimpāl entrenched himself in a strong position between two hills at the junction of which the fort [of Nandana] was situated, and closed the entrance to the pass by a strong line of elephants. . . Bhimpāl in the meantime received fresh reinforcements and leaving his entrenched position, he came out into the plain, with his rear resting on the hills and his wings protected by elephants, and attacked the Sultān, but he was beaten back. . . The Sultān now delivered a furious charge on Bhimpāl which

proved irresistible. The Hindūs broke and fled for refuge to the fort of Nandana. The Sultān laid siege to it. Mines were run under the walls of the fort, and the Turkomān sharpshooters poured a terrific shower of arrows on the defenders. Realizing that it would be impossible to hold out long, the garrison surrendered unconditionally. The Sultān entered the fort and captured immense booty.' Cf. Muh. Nazim, *Sultān Mahmūd of Ghazna*, pp. 91 sqq.

SKETCH PLAN

OF

NANDANA PASS AND ENVIRONS

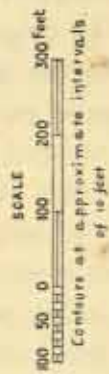


PLAN 3

SKETCH PLAN

OF

NANDANA FORT



PLAN 4



narrow rocky crest in the south-west (see Plan 4). Along its total length of more than 300 yards the wall was very massively built with large uncut slabs of sandstone quarried on the spot. But, owing to the steepness of the slope, the foundations have given way over most of its length, bringing down the wall into confused masses of debris. But of the several semicircular bastions still traceable two towards the western extremity of the ridge have stood their ground in great strength (Fig. 11). The sloping walls are built with large slabs of dressed stone set in regular courses, and bear a look of considerable antiquity, later repairs being easily distinguished by their inferior masonry. The upper of these two bastions, built on a very steep rocky slope, still rises to a height of 27 feet on its slanting face. The one below lies close to where the present road passes the line of wall and evidently was meant to guard the gate. The slopes below the top of the ridge and within the defences are covered with the debris of rough stone walls, the remains of dwellings built wherever there was room left. Between them passes the road across a small saddle of the ridge.

The southern face of the ridge is for the most part lined by cliffs so precipitous as scarcely to need defences. Where the road descends from the saddle just referred to, the gap left between the unscalable cliffs below the westernmost end of the top and an equally steep spur projecting from below the ruined mosque to be presently mentioned, remains of a wall closing the approach are just traceable for about 100 yards. Thence the road runs down in zigzags to a small plateau, covered with the debris and foundation walls of decayed dwellings. This is known as Kainthī, and lies about 250 feet below the highest part of the ridge. Some 120 yards to the east of it the road passes on a lower level a very massively built semicircular bastion evidently meant to guard an outer gate. It rises to a height of 29 feet on its sloping face, and is built with dressed sandstone blocks measuring on the average 25 inches in length and 10 inches in height, carefully set in courses. Above it the remains of a much decayed line of wall ascending to the foot of precipitous cliffs below the ruined mosque can just be made out. Thence the road runs down very steeply to the point where the two spring-fed streams descending in the gorges on either side of the ridge unite at the valley bottom, some 500 feet below the top (Plan 3). The rivulet formed by them drives some mills, and passing the houses of 'old Bāghānwāla' runs for half a mile in a picturesque narrow valley lined by luxuriant fruit gardens. Then it is caught at its mouth in small canals to carry its life-giving waters to the orchards and fields of the large village of Bāghānwāla.

The remains on the narrow but fairly level top of the ridge (Fig. 7) comprise the ruins of a Hindu temple, a mosque close to the south-west of it, and a very massive but much injured pile of uncertain character built on what forms a kind of

rectangular bastion at the north-eastern extremity of the top. Both the Hindu temple and the mosque are raised on the top of a very massively built terrace (Fig. 5) intended to secure more adequate level space. Judging from its irregular shape and other indications, this terrace has been repeatedly enlarged. As shown by the sketch plan (Plan 4), the maximum dimensions of these substructures, all much injured, are about 120 feet on the north-west and 80 feet on the south-east. The terrace on the former side rises to heights from 15 to 25 feet above the surface of the natural soil. The terrace is faced with large dressed slabs of tufa, set in mortar and laid in regular courses. Judging from the materials used and the careful construction, it can be safely assumed that the whole of the substructure is far more ancient than either the temple or the mosque. The latter, comprising a prayer hall and an enclosed forecourt, shows walls of very rough masonry still retaining their white plastering, and is manifestly of late date. The mosque appears to have been built within the ruins of an older and larger structure of which portion of a wall still survives on the north-west side.

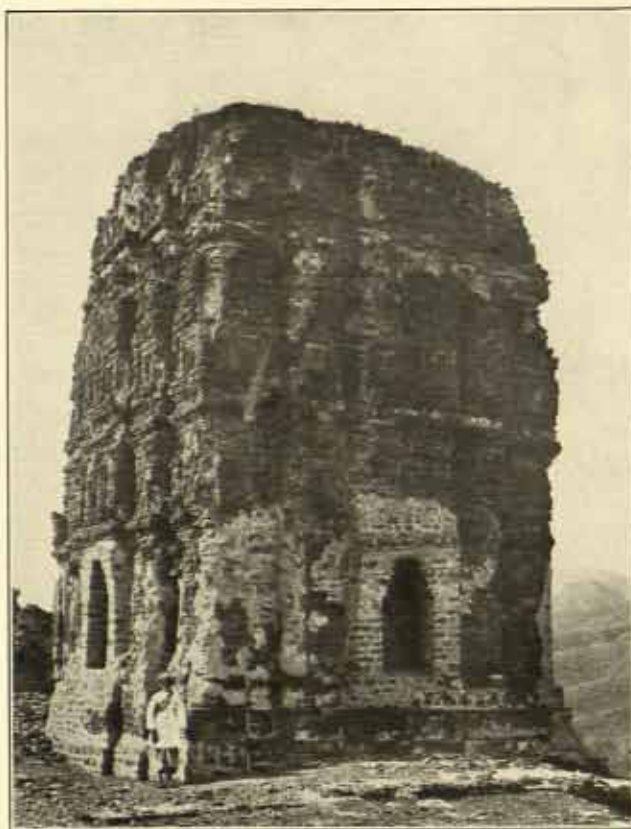
The Hindu temple (Fig. 6) is a structure closely corresponding in type to the temples found at other Salt Range sites such as Ketās, Amb, and at the Kāfirkōt sites of the Dera Ismail Khān District by the bank of the Indus.³ It has suffered much damage, having lost almost the whole of its front on the south-west, where the entrance lay. It is built throughout with cut slabs of tufa, of irregular sizes and smaller than those used in the platform. The masonry is set in mortar but is distinctly inferior to that of the terrace. The whole face of the outside wall was once covered with stucco, of which portions remain in places. These wall faces were decorated with an elaborate scheme of trefoil arches, niches, *amalaka*-topped pilasters, &c., all carved in rather flat relief, and showing motifs derived from late Graeco-Buddhist art. But all this ornamentation has badly decayed since it lost its protective cover of stucco. For the same reason and on account of the damage otherwise suffered by the outside of the structure, the details of the measurements recorded for it cannot claim to be absolutely exact.

The temple measured at its base 24 feet 3 inches on its north-east face and 25 feet on the north-west. On the south-east face the lowest portion of the base has disappeared. The porch which once faced the interior on the south-west has been completely broken, and similarly also the doorway, probably trefoil-arched, leading into the cella. This measured approximately 11 feet 7 inches square, and supported a hemispherical dome built in horizontal courses and

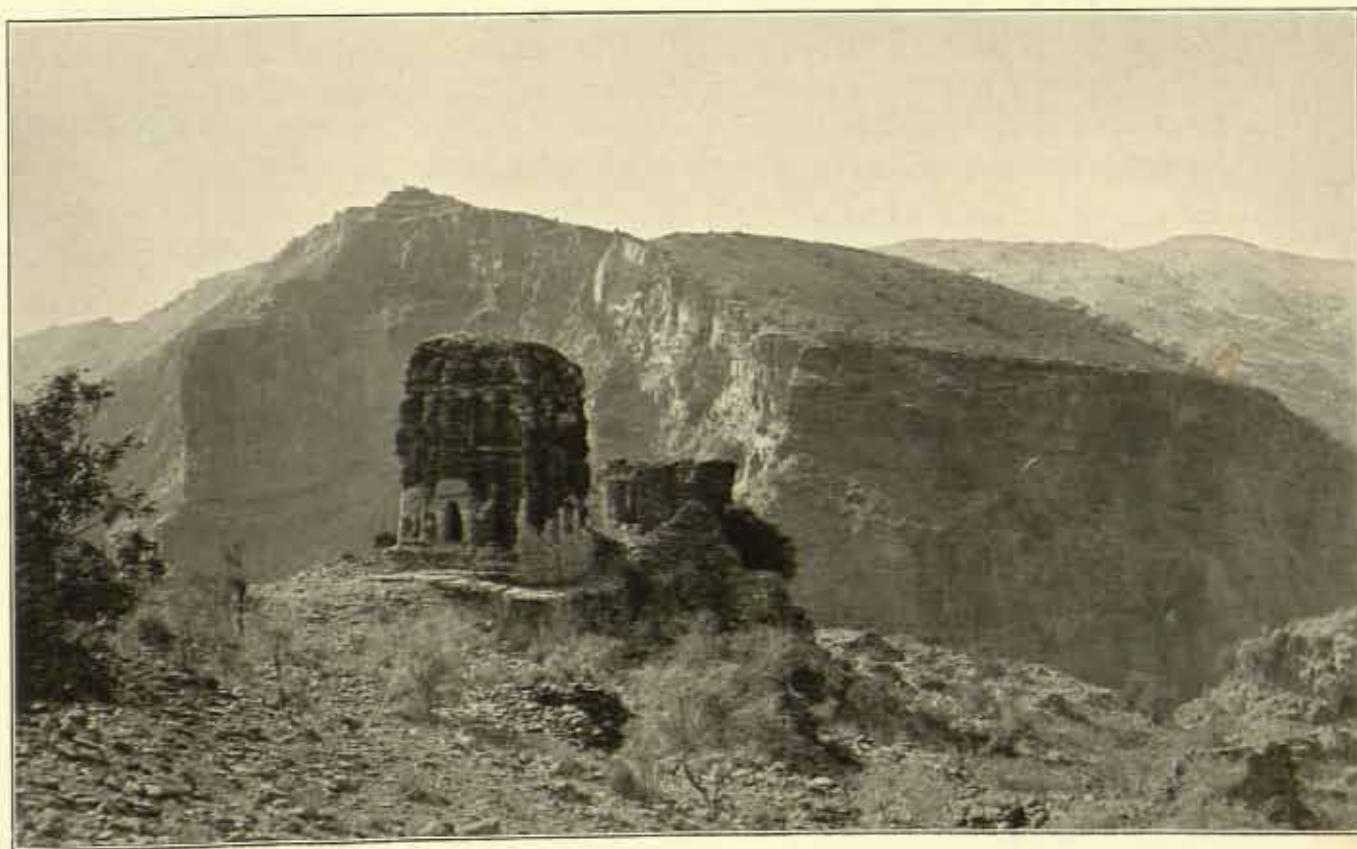
³ Cf. Cunningham, *Archaeol. Survey Report*, ii. *Survey Work, N.W. Frontier Province and Balūchistan*, 1905, pp. 14 sqq. pp. 188 sqq., v. pp. 90 sqq.; Stein, *Report on Archaeol.*



5. TERRACE BELOW NORTH-WESTERN FACE OF
TEMPLE, NANDANA



6. RUINS OF HINDU TEMPLE, NANDANA, SEEN
FROM NORTH-WEST



7. RUINS OF HINDU TEMPLE AND MOSQUE ON NANDANA RIDGE, SEEN FROM NORTH

resting on squinches about 4 feet high at the corners. As usual in the case of temples of this style, the shrine comprised two stories, there being an upper cella about 9 feet 6 inches square. This, too, carried a dome which rested in the corners on squinches formed by four projecting courses. This cella was enclosed within a square circumambulatory passage about 2 feet wide. From this it received light through windows 2 feet 3 inches wide and a door probably once situated above the entrance of the lower cella. The enclosing passage had three narrow loophole-like openings on each side splayed towards the interior. The passage slightly ascended from its south-west corner. To this stairs built into the thickness of the wall enclosing the lower cella, but now no longer traceable, appear to have given access. Whether the sloping passage ascended still farther, or what surmounted the now broken top of the upper dome, can no longer be ascertained.

From Fig. 6 it will be seen that the height of the whole structure, as extant, measured from the foot of the base, is approximately 35 feet 8 inches. It is likely to have been originally considerably greater. Owing to the heavy debris covering the floor of the lower cella it was not possible to ascertain by tracing the position of the *snānadroṇī* or by other indications, to which divinity the shrine was dedicated. The three deep niches on the outside walls, no doubt, once held images; but of these nothing has survived. By clearing the debris below the northern corner of the temple there was laid bare the top of a platform showing a moulding decorated with a string of lotus petals, pointed and of late shape. None of the other temples in the Salt Range showing a similar style of construction and decoration can be exactly dated, and in the case of the Nandana temple, too, definite evidence as to the date is wanting. But on general grounds I am inclined to believe that the temple was erected in the period of the Hindu Shāhiya dynasty (A.D. 9th–10th century) or possibly somewhat earlier.

At a distance of about 130 yards from the temple there rises at the north-eastern end of the top of the ridge and at its highest point a conspicuous ruin of a puzzling character. Its large base is joined by a high bastion-like terrace (Fig. 10). As seen in the sketch plan (Plan 4), this massive pile of solid masonry extends for about 48 feet in length and is 9 feet thick in the middle, where a hole has been cut right through it. Obviously it is but the remnant of a large structure, the rest of which has completely fallen owing to the base having given way on the very steep slope to the north-west. Heavy masses of debris cover this slope, marking the extent of that portion of the structure which has disappeared. Its remains rise to a maximum height of about 18 feet 6 inches, including a barely recognizable plinth of about 4 feet. On its top the ruin measures about 32 feet in length. The hole already referred to, about 5 feet

7 inches wide and 10 feet high, passes through solid masonry of small tufa blocks set in mortar. It was probably made in search of treasure, as was commonly done at almost all ruined Buddhist *stūpas* on the North-West Frontier and in Central Asia. The south-eastern side of the pile has decayed too much to permit the original facing to survive in more than patches. Here and there it was possible to recognize faint traces of low relief decoration showing trefoiled niches.

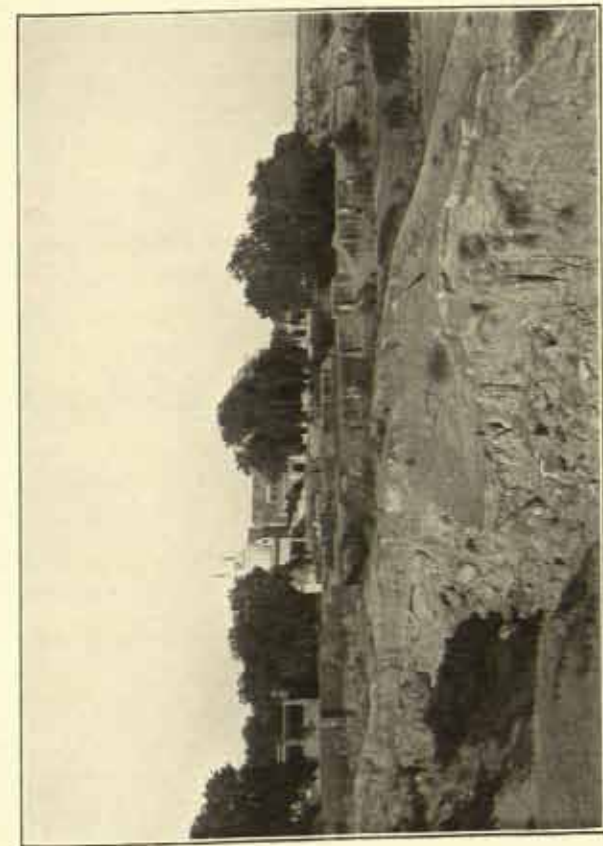
Fortunately the large and massive base on which this structure rested has survived in much better condition on the south-east. Owing to a later wall built against its eastern end, as will presently be mentioned, the eastern corner of the base could be exactly determined. At the western end of this side of the base not much appears to have been lost. Hence its length could be determined as approximately 63 feet. The base is faced here throughout with large carefully dressed slabs of tufa set in regular courses with mortar, and rises 8 feet 5 inches above the ground level. Careful examination of the facing showed that the base was decorated with short pilasters about 18 inches wide placed at intervals of about 6 feet 9 inches and projecting 4 inches.

Five of these pilasters could actually be seen; one has disappeared owing to a break in the facing, and two more are likely to be hidden behind the added wall. Above the last exposed pilaster on the east it was possible to recognize the right half of a voluted double bracket, and on a bold moulding above it a double string formed by broad lotus petals. Higher up, the decoration of the base appears to have finished with a square moulding surmounted by an incised Greek fret. The continuation of this decoration on the top of the base could be followed through to the eastern corner by clearing the slight fissure that had opened between the base and the added wall. The whole of this decoration appears to have been covered with thin hard stucco.

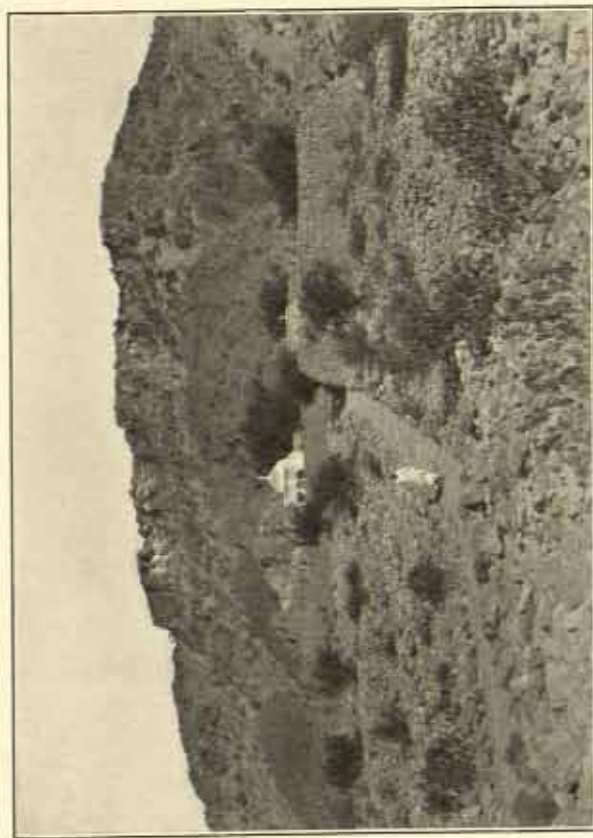
The decorative scheme of this base with its pilasters distinctly reminded me of that seen on the bases of large *stūpas* examined by me in Swāt,⁴ and also on the base of a Buddhist shrine at Mīrān in the far-off Lop region of Chinese Turkistān.⁵ This resemblance, and still more the curious fact of the ruined superstructure having contained a solid masonry core, have suggested to me the possibility that this strange massive pile had originally consisted of the drum and dome of a *stūpa* which much later additions had transformed into a kind of tower crowned by some Hindu shrine, or else into a *takbt*, an ornamental platform built for occupation by a great personage, such as may be seen on the

⁴ See Stein, *An Archaeological Tour in Upper Swāt*, pp. 7, 19, 31, regarding such pilasters on the bases of the *Stūpas* of Tōp-dara, Amlūk-dara, Shankardār.

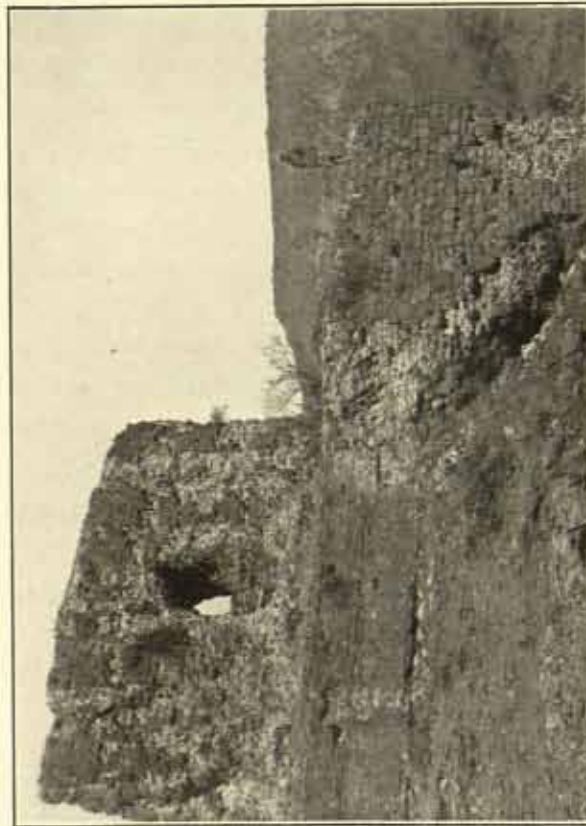
⁵ Cf. *Serindia*, i. p. 486. Fig. 120 shows there the voluted double brackets.



8. MOUNDS FORMED BY BRICK KILN REMAINS
SOUTH OF GOVINDWAL



9. SHRINE OF MANGAL DEV ABOVE RUINS OF
GIRHAK, JALALPUR



10. RUINED PILE WITH TERRACE AT NORTH-EASTERN
END OF NANDANA RIDGE



11. RUINED WALL WITH BASTION AT WESTERN END
OF NANDANA RIDGE

northern approach of the Shāhkōt pass in Swāt. However this may be, there can be no doubt about the base being far older than the superstructure in its present form.⁶

Against the eastern end of the base there has been added a projecting bastion-like wall 9 feet thick and running east for over 25 feet (Fig. 10). It then turns at right angles northward and continues for 63 feet to where it breaks off on the precipitous rock slope. Its height at the corner is 29 feet. The whole of this terrace or bastion is built with dressed blocks of tufa varying in size from $12 \times 18 \times 6$ inches to $11 \times 17 \times 5$ inches. Large uncut blocks of sandstone form a plinth or foundation. That this mighty terrace must at one time have been utilized for a scheme of defence is proved by a manifestly late wall which runs from the broken northern end of the 'bastion' at a sharp angle to the precipitous cliffs along the south-eastern edge of the ridge. This wall, 5 feet thick, is roughly built with uncoursed rubble, set in mortar, and carries a loop-holed parapet 2 feet thick.

I was unable to trace within the defences of the ridge any definite evidence of old arrangements for storing water. I noticed on the top of the ridge between the temple and the 'bastion' two small depressions which looked as if they might have been utilized for that purpose; but they showed no stone lining such as would be needed to retain water for any time. On the other hand, low down on the north-western slope, but within the ancient line of wall, there is now to be seen a properly constructed stone-lined tank. It was said to date from the time when a bridle path passed here to the coal-mine below Āra. This was opened in the year 1893, and for reasons connected with the cost of transport was abandoned five years later. Whether this tank took the place of an old one I could not ascertain. By descending a steep path which leads down from the Kainthī plateau to the rivulet in the western gorge those holding Nandana could ordinarily secure water, or else it could be brought up by the road from the place where the two little streams join. Hence the need of cisterns within the fort may not have made itself felt.

It only remains for us to follow the route which the *chiusa* of Nandana guarded, from the mouth of the valley below it to the Jhēlum. Bāghānwāla, a large village appropriately called after its gardens, looks a veritable oasis at the otherwise arid foot of the frowning hill chain rising above the riverine plain. It is the seat of a prominent family among the great Janjūa tribe which is known

⁶ Passing reference may be made here to a curious passage in 'Utbi's *Tārīkh-i-yamīnī*, quoted by Sir H. Elliott, *History of India*, ii. p. 39, in connexion with Maḥmūd of Ghazna's capture of 'Nārdīn', i.e. Nandana. It mentions a stone 'found there in the temple of the great Buddha' (*sic*) with an inscription on it 'purporting that the temple had been founded fifty thousand years ago'. The Sultān is said to have expressed reasonable surprise at this example of Indian indifference to chronology!

since medieval times to have held a large portion of the Salt Range. Bāghānwāla might well have provided a very suitable place of residence in times of peace for whoever held charge of Nandana, that ancient gate of the Salt Range.

Interesting archaeological evidence of this is furnished by the conspicuous ruin known as 'Shāhī Darwāza' ('The Royal Gate'), situated by the right bank of the stream of Bāghānwāla and about half a mile below the main portion of the village. It consists of a gateway with porch, central domed chamber, and two pentagonal apses, one on either side of the central chamber, the whole built with carefully dressed slabs of red sandstone. The square structure measures 30 feet outside and the entrance under the porch 12 feet 8 inches in width, the arch over the latter being 15 feet in height. The dome over the central chamber, mostly fallen, and the vaulting over the apses are constructed with horizontal courses, while the porch and inner gate on both sides of the chamber are surmounted by true arches. The mixture of the two systems of vaulting seems to point to construction in Muhammadan times.

No side walls adjoin the structure. As tradition also asserts, it seems to have served as the ornamental gateway to a garden after the fashion of *bārabdarīs* found at gardens of the Mughal period. Stairs at the back give access to the roof. The construction of this gateway and of the garden is ascribed to a Rāja Tōrhind in the account of local traditions which Ghazan Khān, head of the Bāghānwāla family of Janjūas, had recorded for me. This traditional record does not pretend to reach back farther than the eighth century of the Muhammadan era, and does not furnish any reliable data as regards the earlier history of Nandana.

Leaving Bāghānwāla and crossing below it the alluvial plain, well cultivated almost throughout, we come after about 9 miles to the large village of Haranpur, and beyond it to the bank of the Jhēlum. The river flows here, as already mentioned, in a single well-defined bed, and it deserves to be noted that the width of this bed, half a mile, corresponds closely to the four stadia which Curtius records as the breadth of the river at the point where Poros guarded the passage and where Alexander's main camp stood facing that of his adversary.⁷ I have before had occasion to point out that the road distance between the river bank here and Jalālpur corresponds exactly to the 17½ miles recorded by Arrian between Alexander's camp and the place where he ultimately crossed the Hydaspes. It only remains to add that, as the maps show, the present road between Haranpur and Jalālpur runs at such a distance from the river as would have effectively screened the final move of Alexander's force from the enemy's observation, a point which Arrian specially mentions.

⁷ Cf. Curtius, *Histor.* viii. xiii. 8.

CHAPTER II

OLD SITES IN THE SALT RANGE AND SHĀHPUR DISTRICT

SECTION I—SĪMHAPURA REVISITED

AFTER concluding the investigations relating to Alexander's campaign, it was my intention to utilize such time as might remain available before the official arrangements for my tour in Persian Balūchistān were completed, for visits to sites of archaeological interest in the neighbouring parts of the Salt Range and of the plain south of it. To the former I was particularly attracted by the fact that the vicinity of Ketās had as long ago as 1889 seen my first antiquarian field work. A renewed visit to that ground would offer an opportunity also of seeing something of the routes which, as previously mentioned, cross the Salt Range to the Jhēlum west of the road past Āra and Nandana.

On December 2nd we started from Āra, where inquiries in the village had produced several Indo-Scythian and later Kuṣāna and Shāhi coins, evidence of the locality having been occupied in pre-Muhammadan periods. Moving westwards between the two more or less parallel hill chains of the Salt Range over ground well wooded in places we passed, in the small basin of Pāthak, an interesting small ruin of Muhammadan times. It is a domed tomb built with carefully dressed slabs of sandstone, which, in spite of much damage, still rises to a height of about 20 feet over a cella of 14 feet 6 inches square. Judging from certain features, showing a mixture of Hindu and Saracenic architecture, the structure can scarcely be much later than the sixteenth century.

Continuing across partly cultivated plateaux divided by gently sloping heights we passed, at the village of Umbrīla, the point where the road diverges to Chakwāl and thence on towards Rawalpindi and Taxila. The day's march ended at the large village of Bishārat, situated at an elevation of nearly 3,000 feet. Here, as throughout the Salt Range, it was interesting to observe how large a proportion of the able-bodied men had served in the Indian army and were drawing reserve pay or pension. There is good reason to believe that this tract with its barren hills and limited arable land has all through historical times bred a martial population just as now, when it forms a chief recruiting ground of

46 OLD SITES IN THE SALT RANGE AND SHĀHPUR DISTRICT [Chap. II
Panjāb Muhammadans for the Indian Army.¹ The Brahmans, too, of the Salt Range hold a good record in military service.

The next day's march took us over much rough ground and presented varied interest. It first led south to the famous Janjūa stronghold of Makhiāla, which occupies the extremity of a steep ridge flanked by ravines with precipitous rock walls near the brink of the outer range. Within it we were hospitably received at the ancestral home of one of the chief families of the tribe, the one headed by the Janjūa 'Sultāns'. Descending thence to the south-west we visited the large village of Salōi, favoured by a plentiful spring and a place of some consequence. Past it an old route descends across several spurs to Chanuwāla and thence leads on to Haranpur.

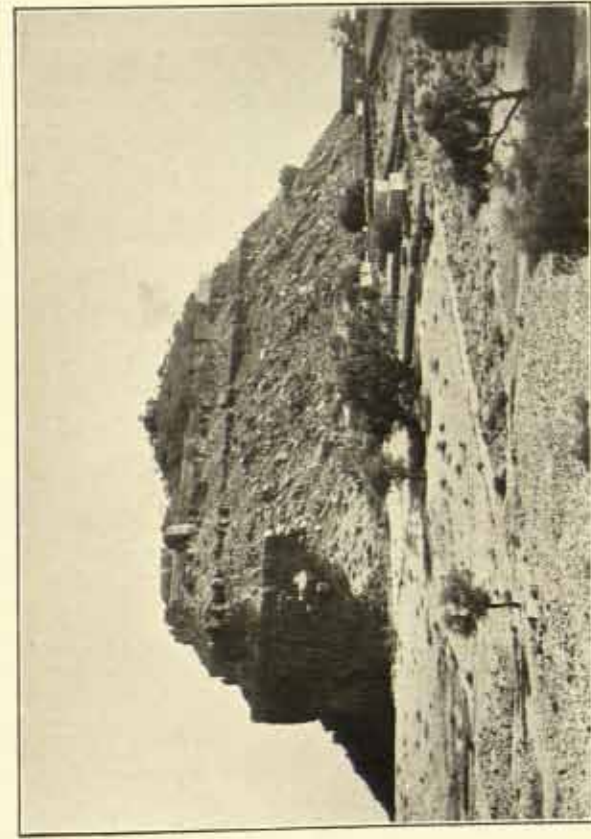
Continuing for some 5 miles, first to the south-west through a fairly open valley and then up a steep track, we reached the village of Kusk, once a place of importance in connexion with the salt trade from the great Khewra Salt mines. The small basin in which it stands, and through which two routes to the riverine plain pass, is dominated on the east by a completely isolated rocky hill which rises boldly to a height of more than 200 feet (Fig. 12). The hill falls away in sheer precipices (see Plan 2) on all sides except that towards the village, where the steep slope is ascended by a difficult path and the top is defended by a massive wall faced with dressed slabs of sandstone and flanked by two large octagonal bastions. Owing to the natural strength of the position, this stronghold was practically impregnable before long-range guns came into use. Hence Mahārāja Ranjit Singh about 1810 besieged it ineffectually for six months, until want of water compelled the Janjūa Rāja of Kusk who held it to surrender.

The defences have suffered comparatively little by time. That chief's grandson ascribed the construction of the fort to his ancestor Sultān 'Ālim Khān of ten generations back. The statement seemed compatible with the constructive features shown by the crenellated curtain walls and bastions, which point to Mughal times. The crest of the hill is occupied by a heavily plastered Hindu shrine, a place of regular pilgrimage for Hindus from the plains and probably of some antiquity. The hill itself, owing to its great natural strength, is likely to have been used as a safe place of refuge from early times. A long ride along bare hills to the west brought us late the same evening to Chōa Saidān Shāh.

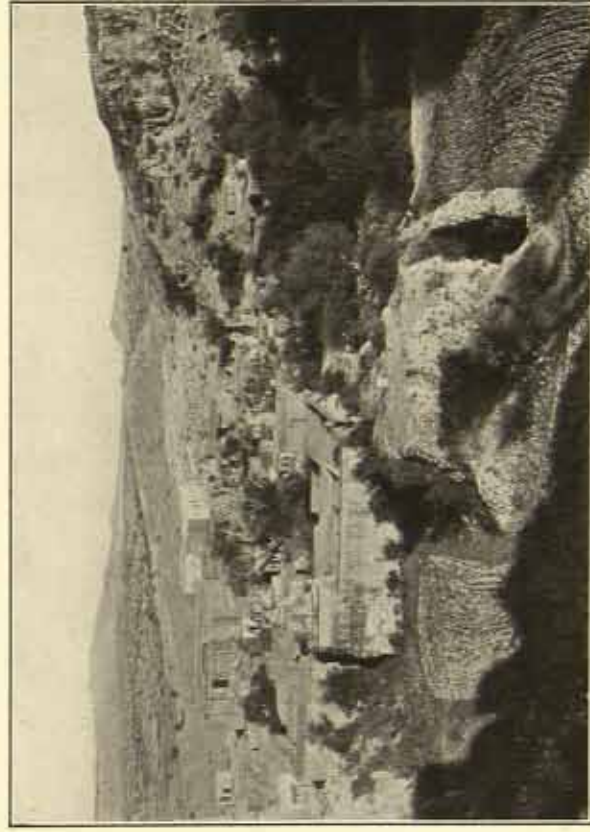
I well remembered the place from previous visits as perhaps the pleasantest in the Salt Range, and was glad to use a stay of several days there for renewing my acquaintance with localities in the vicinity presenting distinct archaeological

¹ It is probable that many if not most of the mercenaries who, under the term of *Saindbava*, figure prominently in the later Hindu period of

Kashmīr history, were soldiers from the Salt Range area; cf. my note on *Rājatar.* viii. 1868.



12. HILL FORTRESS OF KUSUK, SEEN FROM NORTH-WEST



13. RUINED BASE OF STÜPA, KETÄS, SEEN FROM
TEMPLE TERRACE



14. RUINED MOUND ON MÜRTI HILLOCK,
GAMDHĀLA VALLEY



15. POOL FORMED BY STREAM AT FOOT OF
MÜRTI HILLOCK

interest. This is due mainly to the detailed notice which Hsüan-tsang, the great Chinese pilgrim, has left us of his visit to the territory of Sīmhapura and of the sacred spots seen by him in the neighbourhood of its capital. General Cunningham had been the first to look for Sīmhapura at Ketās, a much-frequented place of Hindu pilgrimage situated about 2 miles to the west of Chōa Saidān Shāh and marked by a number of ruined temples around its sacred pool. But he had not been able to advance conclusive proof for this identification and had subsequently changed his location of the site to Malōt, some 10 miles from Ketās to the south-west.²

At neither place had he succeeded in tracing a sacred site of the Jains to which Hsüan-tsang makes detailed reference in connexion with Sīmhapura. The special interest attaching to this site induced that great Indologist, the late Professor G. Bühler, to call my attention to the problem presented. I accordingly used the brief freedom from official duties afforded by a Christmas vacation to visit Ketās in December, 1889. Led by local information about a ruin which had furnished much ancient sculpture and building material, I traced the remains, plentiful if sadly damaged, of what evidently had been the sanctuary referred to at a place called *Mūrti* situated in the Gamdhāla valley some 5 miles down the stream which issues from the sacred pool of Ketās. A small grant kindly placed at my disposal by the Panjāb Government enabled me in the following hot weather with the assistance of my friend Mr. F. H. Andrews, then officiating Principal of the Mayo School of Art, Lahore, rapidly to clear what was left of the ruined structure. It had been extensively quarried before for building operations at Chōa Saidān Shāh. An account of the discovery of the site and of the main result of the clearing, which had brought to light a mass of fine sculptural remains, was recorded by me in letters addressed to Professor Bühler and published by him in the *Vienna Oriental Journal*.³

The agreement between the situation of *Mūrti*, the remains found there, and Hsüan-tsang's description of the spot is so close that the location of the capital of Sīmhapura at or near Ketās could in the opinion of such competent scholars as Professor Bühler and Mr. Vincent Smith be safely deduced from it. But as the late Mr. T. Watters, in his posthumous work dealing with Hsüan-tsang's 'Records of Western Countries', has treated this identification with a good deal of scepticism,⁴ it seems desirable to review here briefly the reasons, both topographical and archaeological, which notwithstanding the doubts raised by that distinguished Sinologist point clearly to the Salt Range being intended by the pilgrim's territory of Sīmhapura, and the vicinity of Ketās by his account of its

² See Cunningham, *Archaeol. Survey Report*, ii. pp. 188 sqq.; v. pp. 90 sqq.

³ See *Wiener Zeitschrift für die Kunde des Morgenlandes*, iv (1890), pp. 90 sqq., 260 sq.

⁴ See Watters, *On Yuan Chwang's Travels*, i. pp. 248 sqq.

capital. Once more Taxila furnishes an absolutely safe starting-point for our investigation; for it is after dealing with the kingdom of Takshaśilā, or Taxila, that Hsüan-tsang's account takes us to Simhapura. For the sake of convenience I may reproduce it here in Mr. Watters's translation, changing only the wording where the use of the past instead of the present gives it, quite needlessly, the appearance of a paraphrase.

'From this (that is, the neighbourhood of Takshaśilā) going south-east across hills and valleys for above 700 *li* you come to the *Seng-ba-pu-lo* (Simhapura) country; this is about 3,500 *li* in circuit with the Indus on its west frontier. The capital fourteen or fifteen *li* in circuit rests on hills and is a natural fortress. The soil of the country is fertile, the climate is cold, the people are rude, bold and deceitful. There is no king and the country is a dependency of Kashmir.

'Near the south of the capital is an Aśoka tope, the beauty of which is impaired although its miraculous powers continue, and beside it is a Buddhist monastery quite deserted.'

A look at the map suffices to show that by a hilly territory situated to the south-east of Taxila and adjoined on the west by the Indus no other area can be meant than the one comprising the Salt Range in the wider sense of the term and now divided between the Districts of Rawalpindi, Jhēlum, Attock, and Shāhpur. It is true that if we take the 700 *li* to refer, as usually in Hsüan-tsang's distance reckonings, to the distance from capital to capital we should be taken far beyond the area where any town surrounded by hills can possibly be looked for. But since the pilgrim's own subsequent narrative distinctly states that he returned from Simhapura to the northern confines of the territory of Taxila, a statement confirmed also by his *Life*,⁵ we can safely accept the explanation long ago suggested by Cunningham that the distance of 700 *li* relates to the whole length of the journey from Taxila to Simhapura and back.

Mr. Watters's suggestion 'that north-east should be substituted for south-east in the statement of the direction of Simhapura from Takshaśilā' implies an obvious geographical impossibility in view of what is said about the territory bordering on the Indus in the west. On the other hand, it is easy to account for the distance of 700 *li* if we assume that the double journey to and from Ketās is intended; for the direct distance between it and Taxila is about 72 miles as measured on the map, and 350 *li* would be a very reasonable estimate for the journey by road, considering that in hilly country not more than about 4 *li* can be reckoned to the mile.⁶

⁵ Cf. Julien, *Vie de Hiouen-tsang*, p. 261; Beal, *Life of Hiuan Tsiang*, p. 191.

⁶ Cf. Stein, *Serindia*, ii. p. 795, note 28*, for

references to passages in Chinese records indicating the value of the *li* in T'ang times.

General Cunningham has given a general account of the position of Ketās, and Mr. Talbot's *Gazetteer* usefully supplements it with details regarding the sacred pool supposed to have been formed by the tears which rained from Śiva's eyes at the death of his consort.⁷ It is the scene of a great annual pilgrimage attracting many thousands of Hindus in the first days of the month of Vaiśākha,⁸ and its sanctity accounts for the numerous shrines and Dharmaśālās erected around it in modern times. General Cunningham has briefly described such remains of old temples as were seen by him on the terraced slope of the flat-topped hill overlooking the sacred pool from the west. They had all suffered badly by decay and clumsy repairs, and several of the smaller shrines mentioned by him as comprised in the Sat-ghara group of temples have disappeared since his time. The rough sketch plan (Plan 5), prepared by Dr. Fábri, will help to convey some idea of the present state of these ruins.

As already correctly pointed out by Cunningham, the general style of these temples in their constructive features and such decorative details as are still recognizable shows close similarity to that of the temples of Kashmīr dating from the eighth to the tenth century A.D. Hence they can safely be assigned, like some other and better-preserved structures of that type in the Salt Range (Amb, Malōt; also Tila Kāfirkōt, &c., on the Indus), approximately to the same period. But there can be no doubt that the successive terraces on which these temples are built are of much greater antiquity. They are all very massively built with a facing of large dressed slabs of sandstone. The north side of the terrace on which the three topmost temples, A-C, stand, rises at its north-east corner to 19 feet above the present ground-level and is divided into two stories by a boldly projecting moulding. The upper one still shows traces of seven flat pilasters.

A similar decorative scheme, reminiscent of that common at the bases of Buddhist *stūpas* in Gandhāra and Swāt, is to be seen somewhat better preserved on the north face of the basement on which the ruined structure, D, is built. The westernmost of the pilasters which divide this face at a distance of 4 feet 3 inches from each other, still retains the outlines of a surmounting double bracket once stuccoed. This structure D, which was obviously not a temple but a hall, or *maṇḍapa*, has undergone great alterations, and its original dimensions (about 40 by 43 feet) are uncertain. But the superior masonry of the older walls and the 'Buddhist rail' pattern of the open-work filling in the two

⁷ See *Gazetteer of the Jhelum District*, pp. 41 sq.

⁸ The great religious fair visited by Muhammadans almost simultaneously at the tomb of Saidān Shāh Shīrāzī, at Chōa Saidān Shāh, is another instance of that 'continuity of local worship' so

frequently observed at old sacred sites in India and elsewhere in Asia; cf. my paper in *J.R.A.S.*, 1910, pp. 839 sqq.; also *Rājataranginī* transl., ii. p. 340.

windows of the north wall clearly show that it dates considerably farther back than the temples by its side and behind it. The same applies also to what little is left of an ante-room or porch which appears to have faced this hall on the east.

Cunningham already had rightly recognized the remains of a far older structure in a large ruined base, *F*, which rises in a field to the east of the temple group and at a distance of about 30 yards from the foot of the lowest of the terrace walls below it (Fig. 13). This base, which in Cunningham's time still measured $68\frac{1}{2}$ by $56\frac{1}{2}$ feet, has since suffered considerably in size and state of preservation through depredations for building material. But its south side still shows the design dividing it 'into a number of small panels or recesses by broad pilasters after the style of the tope basement at Mānikyāla', as described by him.

A recent clearing done for the Archaeological Department, under which the ruins have now passed as a 'Protected Monument',⁹ has revealed behind this wall of the base an earlier stuccoed facing, also decorated with pilasters but here plain and lacking the brackets seen on the outside. It appeared to me evident that the base had obviously been enlarged at some subsequent period and that it had once belonged to a Buddhist *stūpa*. The care which has been taken to clear the ground around for cultivation sufficiently explains why nothing is left now of the debris which would otherwise have remained of the fallen dome and drum of the *stūpa* once rising above the base. The numerous large mansions erected around the sacred pool by Hindu chiefs and other wealthy pilgrims must have been largely built with materials abstracted from the ruined structures of the site.

I have thought this brief review of the ruins still to be seen at Ketās desirable as they afford convincing proof that the site retains remains older than Hsüan-tsang's time and of a type pointing to a place of importance. Of the large base *F* just referred to it appears to me highly probable that it formed part of the 'Aśoka *stūpa*' which the pilgrim found already in a state of decay. On the massive terraces rising above this ruin may have stood the buildings of that Buddhist monastery which at the time of his visit was already quite deserted. 'Continuity of local worship' would help to account for the use made of the same spot for Hindu shrines during the centuries immediately following.

But for definite proof of the identification of the capital of Simhapura with

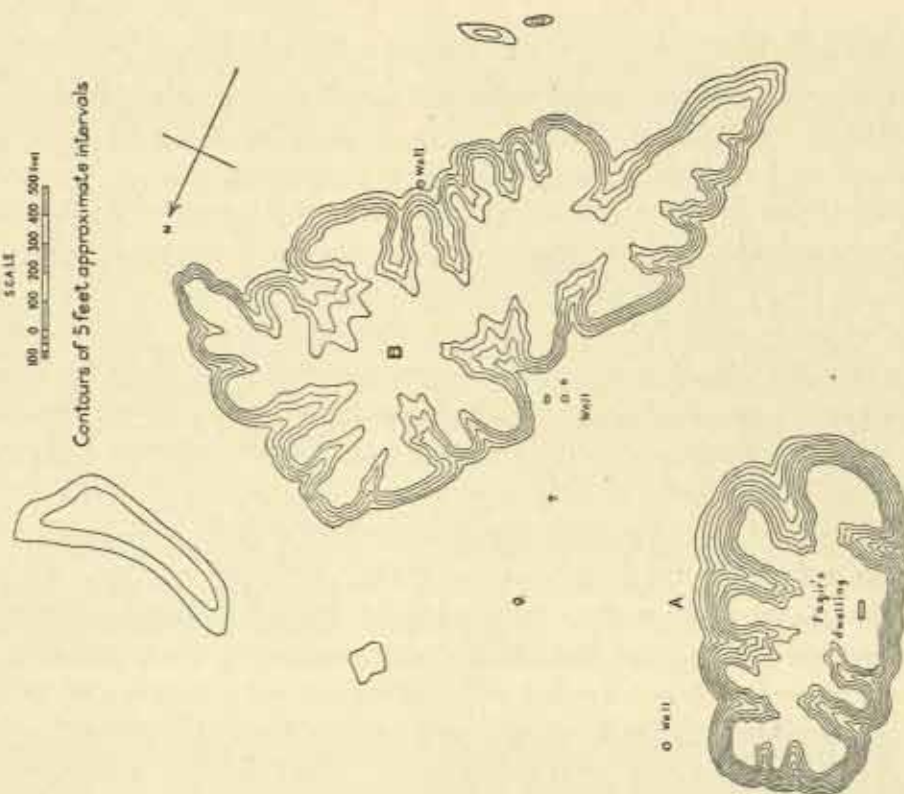
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Archaeological Survey, for 1918-19, pp. 11 sq., in which his inspection of the Ketās temples is briefly recorded. The excavation at the mound *F* mentioned below was carried out by him. Drawings of plans were then made, but have not been published.

ROUGH SITE PLAN
OF
MOUNDS
BAHÜR

SCALE
100 0 100 200 300 400 500 feet

Contours of 5 feet approximate intervals

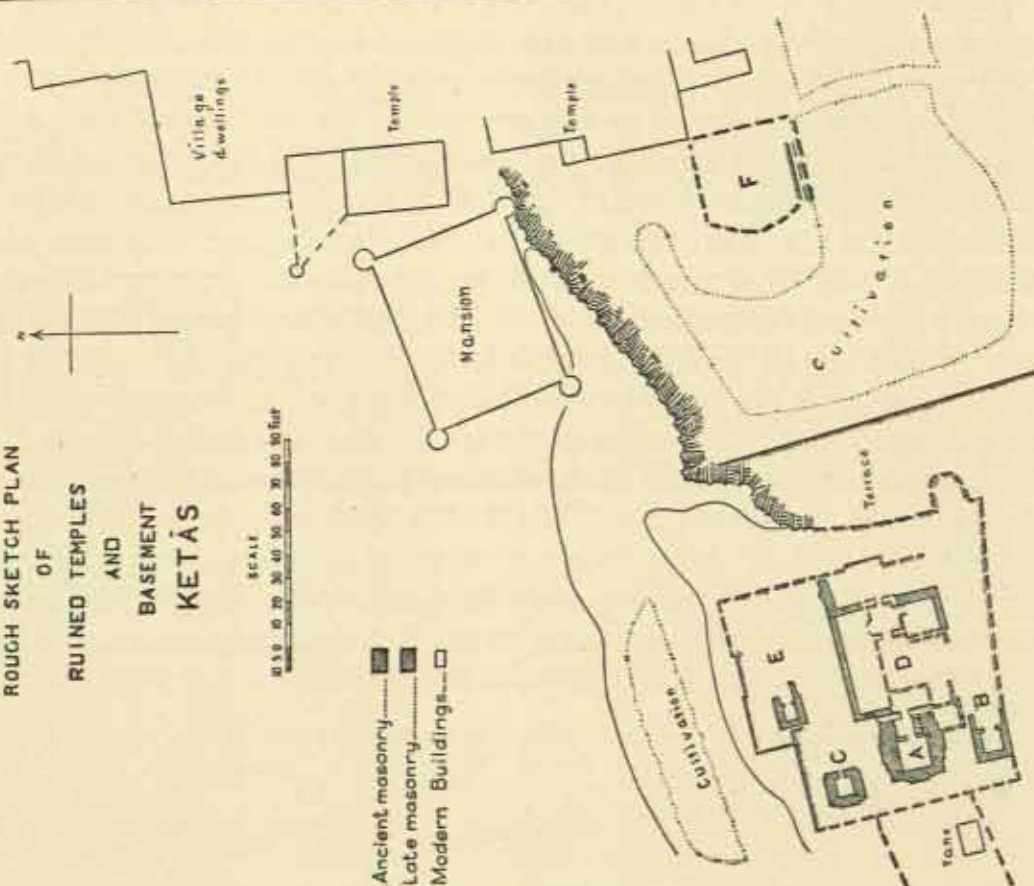


PLAN 6

ROUGH SKETCH PLAN
OF
RUINED TEMPLES
AND
BASEMENT
KETĀS

SCALE
0 10 20 30 40 50 60 70 80 90 feet

Ancient masonry—
Late masonry—
Modern Buildings—□



PLAN 5

33940

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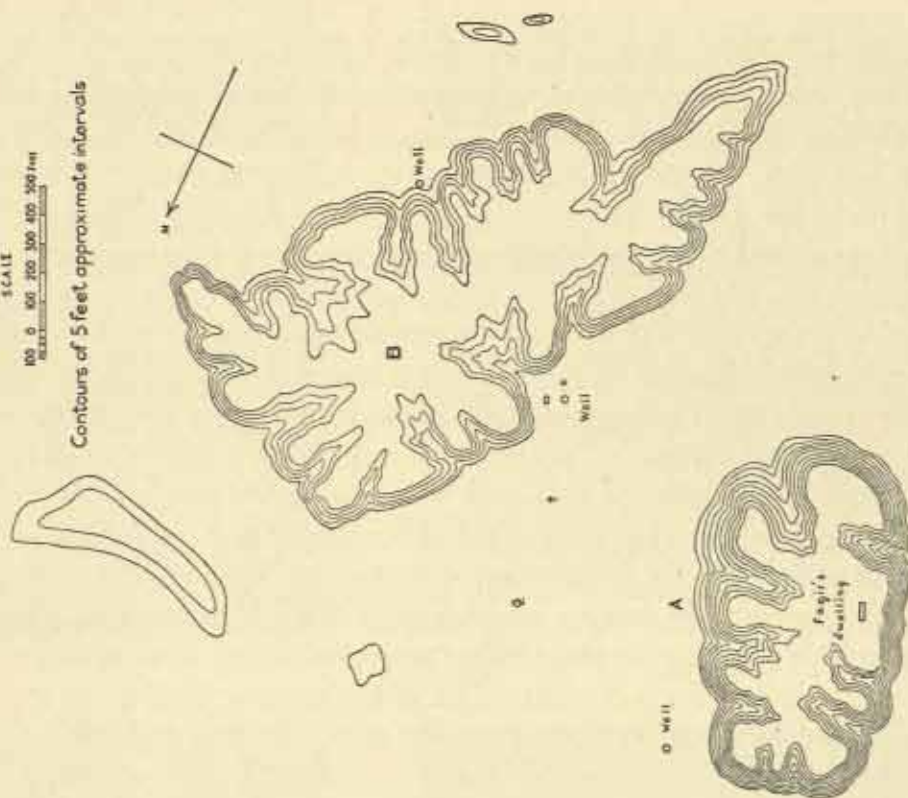
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ROUGH SITE PLAN
OF

MOUNDS
BAHUR

SCALE
100 0 100 200 300 400 500 feet

Contours of 5 feet approximate intervals



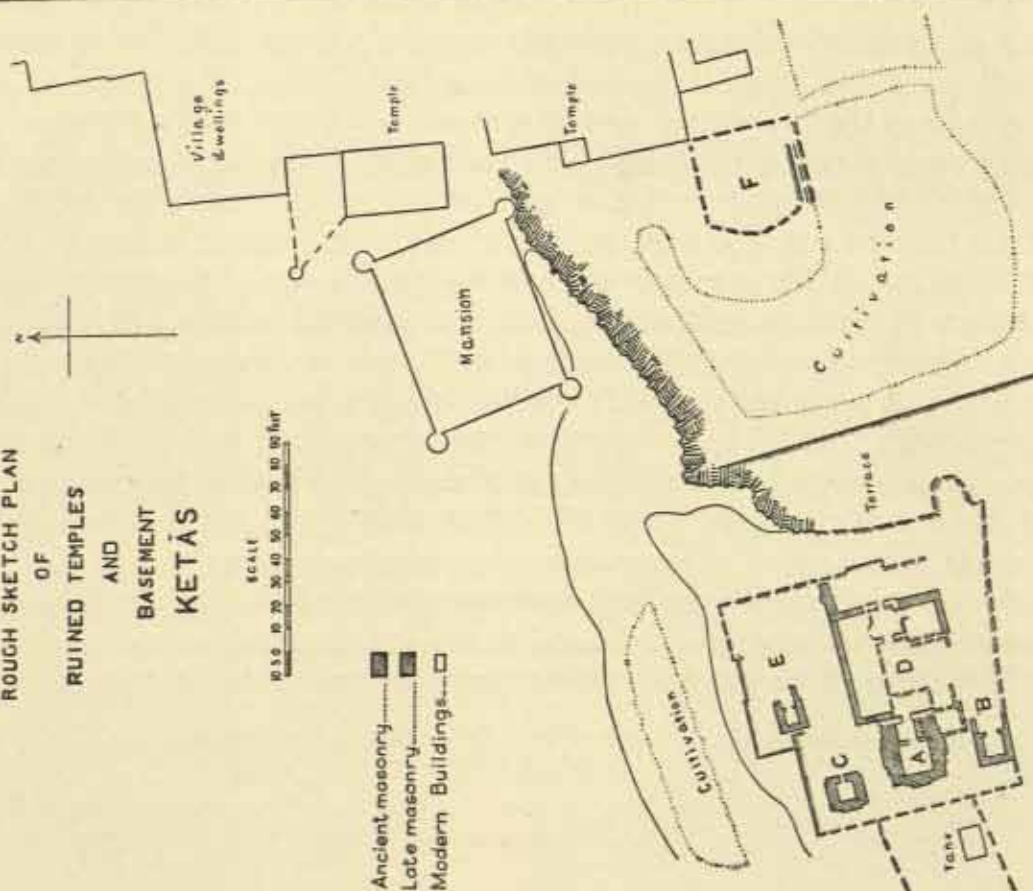
PLAN 6

ROUGH SKETCH PLAN
OF

RUINED TEMPLES
AND
BASEMENT
KETAS

SCALE
10 20 30 40 50 60 70 80 90 feet

Ancient masonry.....
Late masonry.....
Modern Buildings....□



PLAN 5

. 33940

Ketās we must rely upon the location of the site which Hsüan-tsang's subsequent account, as translated by Mr. Watters, describes as follows:

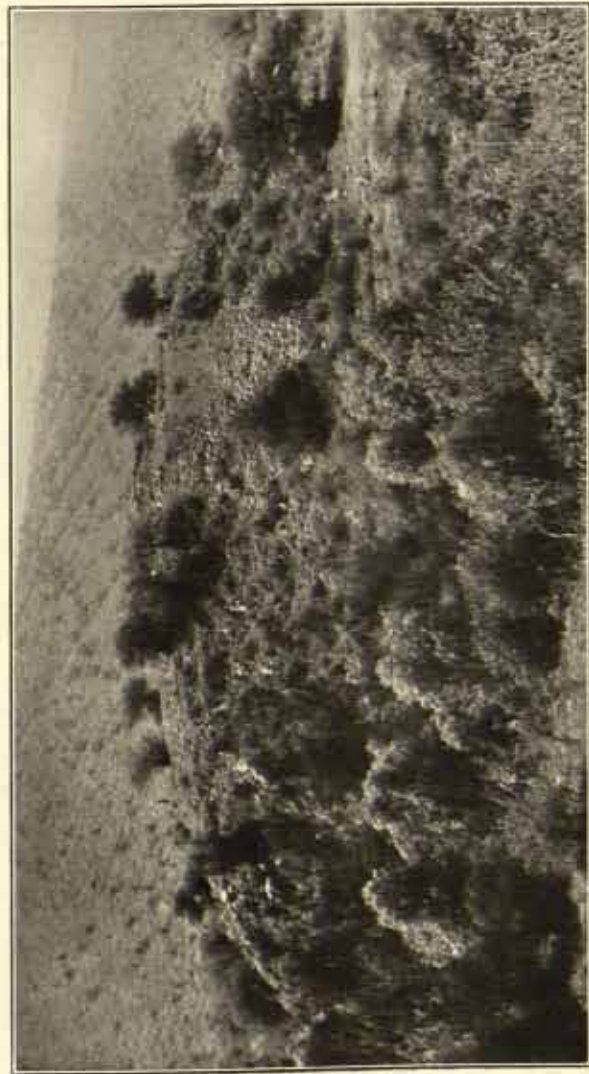
'Forty or fifty *li* to the south-east of the capital is a stone tope above 200 feet high built by Aśoka. Here are also more than ten tanks large and small—"a scene of sunshine". The banks of these tanks are of carved stone representing various forms and strange kinds of creatures. The struggling water (that is, the river which supplied the tanks) is a clear brawling torrent; dragons, fish and other watery tribes move about in the cavernous depths; lotuses of the four colours cover the surface of the clear ponds; all kinds of fruit trees grow thick, making one splendour of various hues and, the brightness of the wood mixing with that of the tanks, the place is truly a pleasure-ground.

'Beside [the tope?] is a Buddhist monastery which has long been unoccupied. Not far from the tope is the place at which the founder of the "White-clothes" sect, having come to realize the principles for which he had been seeking, first preached his system, the place being now marked by a memorial beside which a Deva-temple has been erected. The disciples [of the founder of the "White-clothes" sect] practise austerities, persevering day and night without any relaxation, etc.'

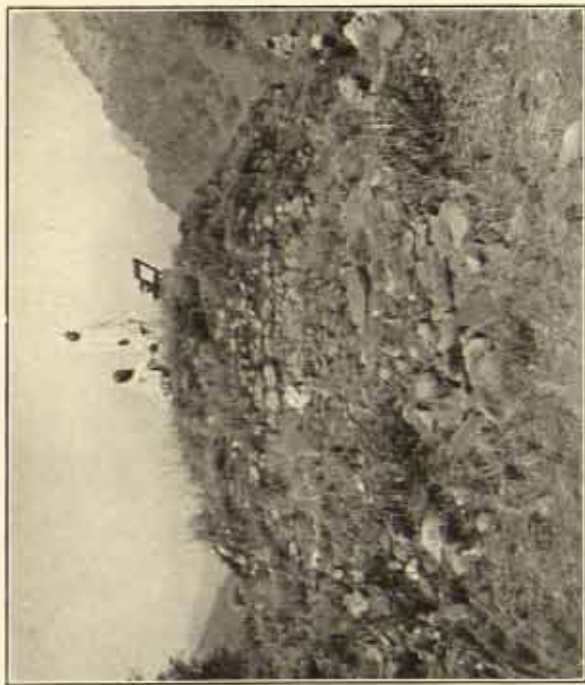
Then follows a brief but correct description of the white-robed heretics and their system by which, as long ago recognized by students of the *Hsi-yü-chi*, the Jaina sect of the Śvetāmbaras and their doctrine are intended. The translations of Julien and Beal agree with the above rendering of Mr. Watters in all essentials, except that they refer to the spot where the founder of Jainism found enlightenment as being marked by an inscription. Whether the Chinese words quoted by Mr. Watters imply an inscription or other form of memorial, it is certain that the site where the founder of the Jaina doctrine, that early rival of Buddhism, was believed to have attained his *bodhi* may claim exceptional interest.

I do not propose to relate here afresh how on my first arrival at the pleasant District Bungalow of Chōa Saidān Shāh on Christmas Day, 1889, I learned from the villagers that in the valley of Gamdhāla there was a place called significantly enough *Mūrti*, 'the [place of] sculptures'. It was said to have yielded stone images and beautifully carved blocks of stone, such as had been taken some years before to build a new bridge at Chōa Saidān Shāh over the small stream that descends from Ketās.¹⁰ After satisfying myself that the materials of the bridge, partly showing relief decoration, must have been taken from an old temple, I followed the stream downwards, and to my joyful surprise was shown by my guide the place from which all the sculptures had been obtained. It was a spot

¹⁰ A couple of years later a big flood in the valley it seemed, for a structure built with materials washed away the whole of the bridge—a fit fate, obtained in such a vandal fashion!



16. MŪRTI HILLOCK WITH MOUND ON TOP, SEEN FROM SOUTH-WEST



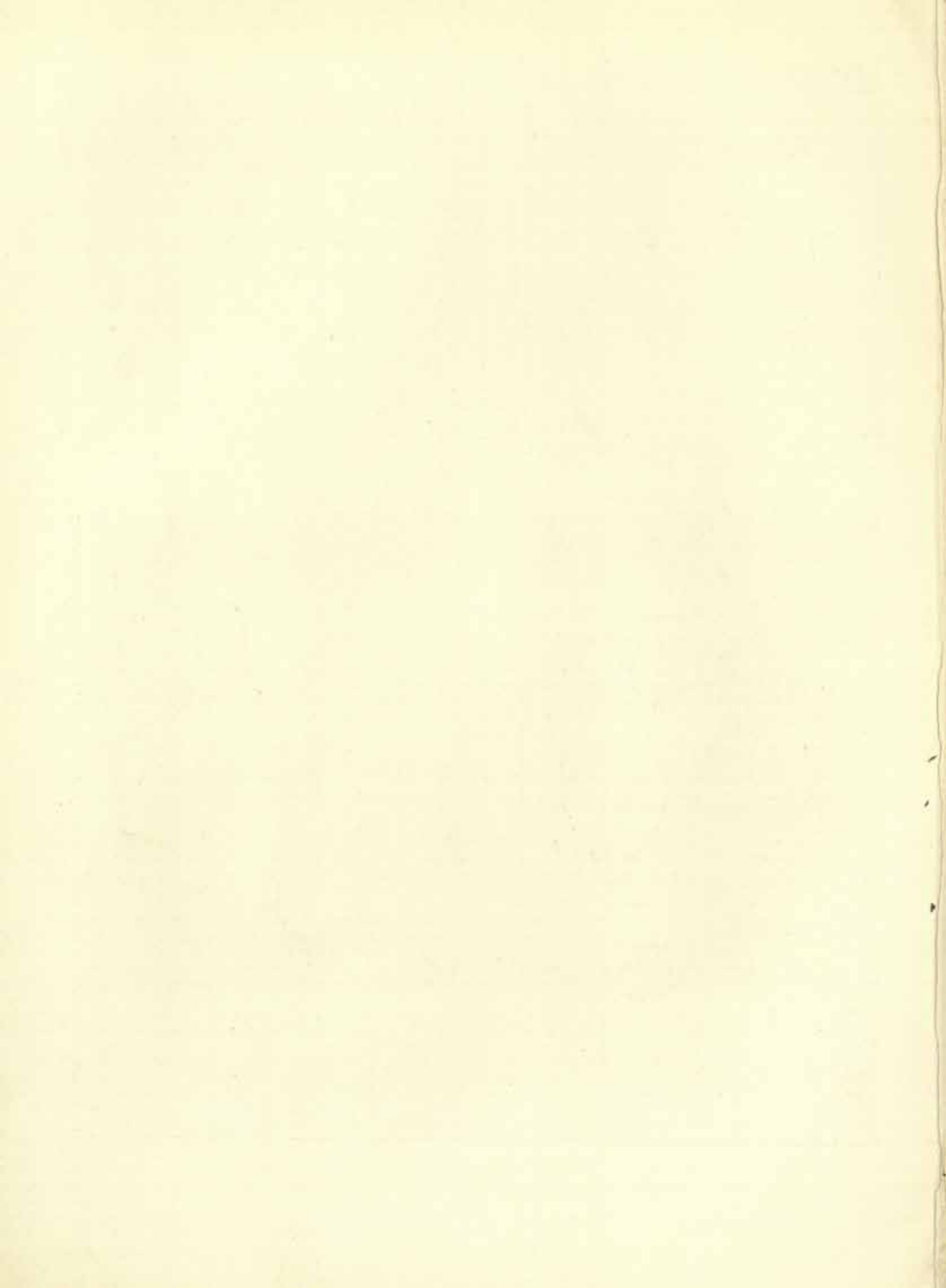
17. REMAINS OF RUINED TEMPLE ON MŪRTI
HILLOCK



18. MŪRTI HILLOCK WITH WALLED-UP TERRACE ABOVE POOL, SEEN FROM SOUTH-EAST



19. SCULPTURED DOOR-JAMBS (?) FROM RUINED
SHIRINE, MŪRTI



which seemed to agree in a truly striking fashion with Hsüan-tsang's description of that site. After my renewed examination of the site, I feel it the more necessary to give a brief description of the position of Mūrti and of the sculptural remains recovered there, since the result of the investigations carried out between the 27th of May and the 3rd of June 1890 has, through my own fault I admit, remained so far without being suitably published. The heavy burden of official work at Lahore and the absorption of my very scanty leisure in other branches of research may perhaps explain, if it cannot excuse, the omission.

The small stream, which the springs of the sacred pool of Ketās help to feed, flows down eastwards to Chōa Saidān Shāh in a narrow stony bed for about $2\frac{1}{2}$ miles. At the previously mentioned bridge it takes a sharp turn to the south and after half a mile, passing the *rauḍa* of Saidān Shāh, enters the Gamdhāla valley, which descends in a south-westerly direction to the plain (see Skeleton Map 1). The valley is lined on both sides by picturesque hills. Those to the north rise in a succession of bold cliffs of sandstone to heights of about 3,000 feet above sea-level, while those to the south are somewhat lower and show more gentle slopes. The whole of the valley is now a Government Reserved Forest and, owing to the protection thus afforded, is covered with ample vegetation, the area being probably more productive of wood and grass than any other in the Salt Range. 'The whole forms, perhaps, the best example of hill scenery that the district contains.'¹¹ At the bottom of the valley winds the limpid Ketās stream, forming a succession of small pools. At a distance of about $2\frac{1}{2}$ miles below the *ziārat* of Saidān Shāh the stream makes a sharp bend round the foot of a hillock of sandstone. There it expands into two large pools of considerable depth (Fig. 15). Both pools are surrounded by luxuriant tree-growth and swarm with fish. On leaving them the rushing stream forces its way through the great boulders which line the northern foot of the hillock, its noise being clearly audible from the top.

The solid sandstone rock forming the core of the hillock is exposed on the east to a height of about 20 feet above the upper pool (Fig. 18). Farther up, the slopes are covered to the top with large stones and detritus. This forms a small plateau at a height of about 70 feet above the water of the pool, but much less from the level of the flat ground which adjoins the southern and western foot of the hillock (Fig. 14). The plateau, stretching approximately from east to west, measures about 75 yards in length and some 63 yards across where widest. Near its south-western end there rises a conical mound, measuring about 20 yards across at its foot, to a height of some 18 feet above the level of the plateau (Fig. 16). It is composed of rough blocks of sandstone and rests partly on a

¹¹ Cf. Talbot, *Gazetteer of the Jhelum District*, p. 43.

walled-up terrace of similar construction which extends the natural edge of the plateau to the south-west.

The mound distinctly suggests a much decayed *stūpa* which has completely lost its facing. On my first visit it was declared to have been occupied within living memory by a Muhammadan shrine believed to have been built by Shāh Kamīr, a holy man whose grave a short distance to the east of the hillock is still venerated. Many of the rough stone blocks belonging to the mound and the supporting terrace below it, as well as material from similar coarse masonry once extending the plateau eastwards, had been carried off for the construction of a large well, some 15 feet in diameter and some 30 feet deep, from which water is raised for irrigating fields and a plantation of trees to the south of the hillock.

The greatest part of the plateau to the east and north of the 'Stūpa mound' was found on my visit to be covered with debris from the reported ancient temple. The position of its walls was clearly marked by four trenches forming an oblong of about 50 by 40 feet close to the north of the 'Stūpa mound'. From them the fine slabs of red sandstone used in the construction of that ill-fated bridge at Chōa Saidān Shāh had been excavated some eight years before my visit under the orders of the Assistant Commissioner at the time. A solid mass of coarse masonry and debris rising within this oblong to a height of about 12 feet above the bottom of the trenches (Fig. 17) showed that the floor of the temple must have been well raised above the natural level of the plateau. The mound thus formed was covered with rough building stones and fragments of carefully cut slabs of red sandstone, some bearing marks of relief decoration. Everything pointed to a richly ornamented Hindu shrine having been upheaved and extensively quarried, probably long before the remaining walls and foundations had been subjected to final exploitation.

In the course of the systematic clearing which was carried out over the whole of the temple site and the remainder of the plateau, it was found that the solid masonry of rough stone blocks set in earth which lay exposed on the mound rested on and around great boulders, forming part of the natural ground of the hillock. Obviously these had been utilized to provide a raised platform for the base of the temple. Adjoining the trench marking the position of the wall on the east side there was laid bare, on a lower level, a flooring about 6 feet wide consisting of rough slabs fitted into each other. It probably indicated the position where the entrance of the shrine was approached by stairs. Among the debris overlying this approach fragments of elaborately carved pieces of red sandstone, all forming parts of architectural decoration, such as small architraves, brackets, columns, &c., first turned up in abundance. It seemed clear that all these had



20. RELIEF SCULPTURES RECOVERED FROM DEBRIS OF RUINED TEMPLE, MŪRTI

Fig. 1 scale $\frac{1}{10}$; figs. 2-5 scale $c. \frac{1}{4}$; fig. 6 scale $c. \frac{1}{4}$

belonged to the outer ornamentation of the temple walls, reproducing on a smaller scale the main architectural elements of the structure in the fashion common to the Hindu style of buildings from an early period.

After the character of the structure marked by the mound had been definitely determined, the whole of the ground around was carefully searched down to the natural soil. Here, among the heaps of debris thrown aside during former quarrying operations, a great mass of sculptural fragments was recovered. Apart from plentiful remains of delicately executed relieve decoration belonging to architectural features, there came to light in the course of this thorough clearing numerous fragments from well-modelled figures executed mainly in high relief and of varying proportions. The specimens reproduced in Figs. 20, 21, represent but a small typical selection from the hundreds of sculptured pieces, most of them small but all executed with the same remarkable care for true modelling and neat carving, which were recovered around the shrine and subsequently deposited in the Lahore Museum.¹² Unfortunately all this wealth of decorative remains, by its sadly injured state, affords only too clear evidence of the vandal destruction inflicted upon the ruin of an exquisitely adorned small shrine by ruthless quarrying operations.¹³

The style of the sculptures and decorative motifs is clearly that of the Gupta period, thus proving beyond doubt that the ruined temple dated from a time considerably older than Hsüan-tsang's visit to this region. As far as my knowledge of the Indian iconography of that period goes, there is among the recovered sculptural fragments none which could definitely prove whether the shrine was meant to serve as a place for Jaina or Brahmanical worship. Of actual cult figures which might perhaps have furnished some clue in this respect, the badly injured life-size fragments of a hand and a leg were the only remains recovered. I must leave it to others to decide whether the seated haloed figure of a god shown in a sunk panel (Fig. 20.6) can possibly be taken for a Jina represented after the Śvetāmbara tradition. The object held in the figure's left hand, indistinct as it is, seems to speak against it.

With regard to particular pieces of sculpture it remains to be mentioned that

¹² For the supply in 1933 of the photographs reproducing these specimens, I am indebted to the instructions kindly issued by R. B. Daya Ram Sahni, C.I.E., Director-General of Archaeology.

¹³ The way in which the beautiful small seated figure of a male divinity, Fig. 21.6, has been cut through in the middle before it was left behind is characteristic of the manner in which sculptured pieces were treated for more convenient handling as building material. It seems to support the state-

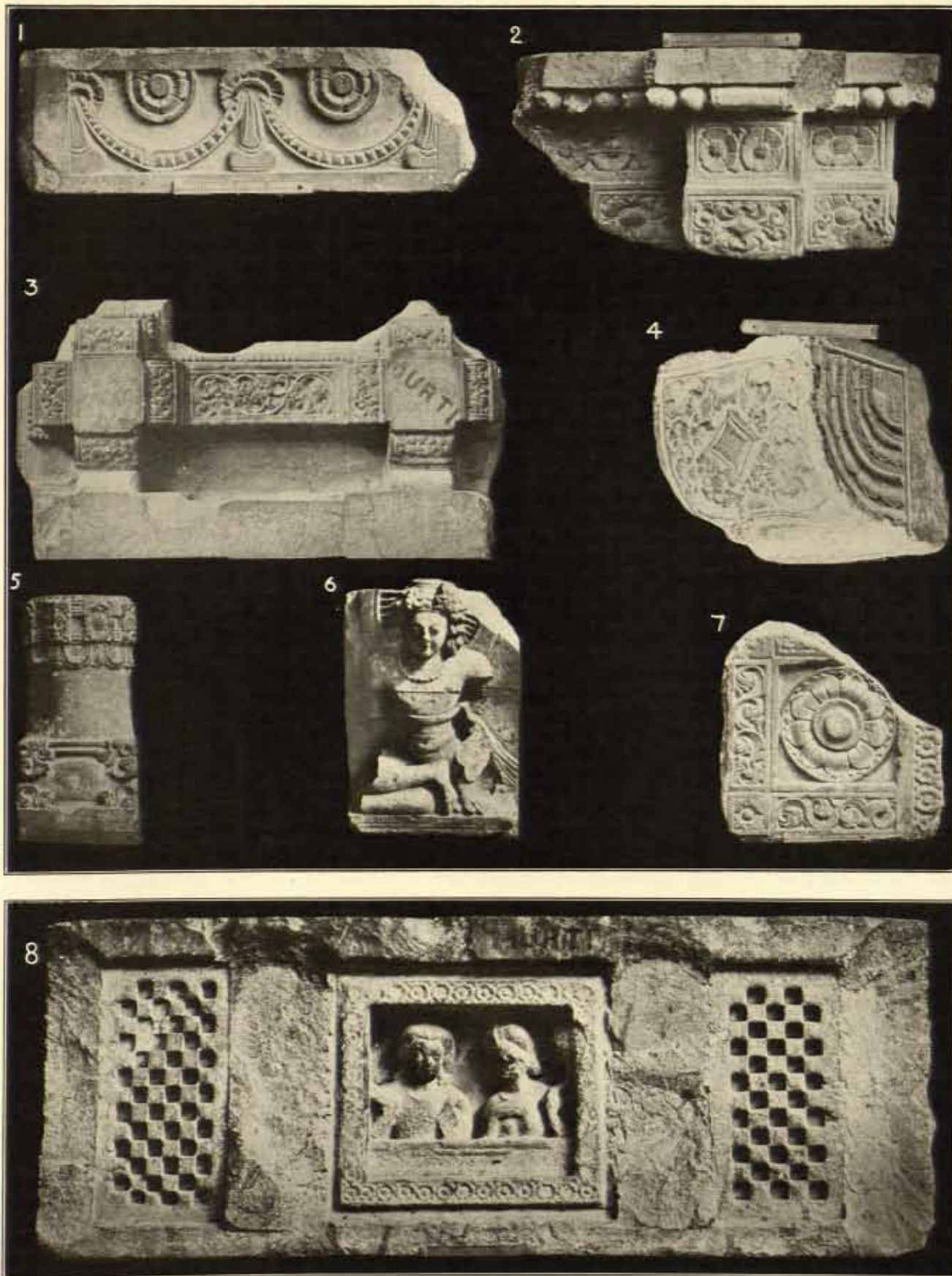
ment, heard by me at Chōa Saidān Shāh, that numerous stones from Mūrti bearing relieve figures were walled into the pillars of the bridge with their sculptured faces turned inside or chiselled off. Here it may be mentioned that among the fragments of ancient pottery collected by me in 1931 on the Mūrti hillock, all of rich red ware, there were numerous pieces with moulded or incised decoration, also ribbing. Of the rare painted ware Mur. 1 (Pl. I) is a specimen.

the beautifully carved column (Fig. 20.1) over 4 feet high was found lying in two pieces near where several large plain slabs, originally riveted together, seemed to indicate the foundations of a gateway on the south-east leading to the temple. The slope of the hillock suggests that the approach from below to the plateau on its top must have lain on that side. The decorative bands dividing the several sections of the column with their garlands held by grotesque heads are of very delicate design. The same applies also to the ornamentation of the ogee-shaped finial (Fig. 20.3), holding in a circular niche the excellently modelled figure of a flying Gandharva.

There was ample evidence to be found that long before its final vandal destruction the ruined temple of Mūr̥ti had been plundered to supply sculptural materials both for Ketās and Chōa Saidān Shāh. From a faqīr's cave near the rest-house at the latter place I recovered by purchase two carved lintels of red sandstone showing within a sunk window-like opening (Fig. 21.8) confronting busts of a male and female. Small richly ornamented columns, undoubtedly carried away from Mūr̥ti, were found in the garden of the rest-house and in a little Hindu temple of the village, where they were used for lamp stands. Local belief was no doubt right in declaring the red sandstone slabs used for paving the terraces and stairs of Saidān Shāh's Ziārat to have been brought from Mūr̥ti. More of such materials may be hidden under the thick hard plaster which covers the walls of the sacred tomb. At Ketās two sculptured door-jambs or balustrades (Fig. 19) in the courtyard of Mahant Sarju Dās, ornamented exactly in the style of the Mūr̥ti sculptures, had already attracted my attention on my first visit. Similarly the red sandstone slabs facing the front of the small temple of Bhagvān Dās, built there in Sikh times, were locally known to have been brought from Mūr̥ti.

After this brief account of the site of Mūr̥ti and the remains recovered there I may proceed to sum up the conclusions to be gathered from the preceding observations as to the identification of the localities mentioned in Hsüan-tsang's description of Simhapura. In the first place, stress deserves to be laid on the striking agreement between the immediate surroundings of Mūr̥ti and the sylvan scenery in which the pilgrim's vivid description has placed the spot sacred to the memory of the founder of the Śvetāmbara sect. In a region generally so arid and wanting in running streams and other scenic attractions as the Salt Range, such close agreement must *a priori* claim special attention. From my acquaintance of the Salt Range, acquired in the course of several extensive tours in years gone by, I may safely assert that it would be difficult, if not impossible, to find in any part of that area a scene so closely fitting the pilgrim's account in all details.¹⁴

¹⁴ The details of the description leave no doubt Hsüan-tsang from personal recollection. The point in my mind about its having been recorded by deserves to be specially noted since Mr. Watters



21. RELIEF SCULPTURES RECOVERED FROM DEBRIS OF RUINED TEMPLE, MŪRTI
 Figs. 1, 5 scale $c. \frac{1}{4}$; figs. 2, 4, 8 scale $\frac{1}{4}$; fig. 3 scale $\frac{1}{2}$; figs. 6, 7 scale $\frac{1}{4}$

The built-up mound on the Mūrti hillock which, judging by its size and position, can represent only a much decayed *stūpa*, and the ruined shrine by its side correspond exactly to the 'tope and Deva temple' mentioned by Hsüan-tsang in close proximity to each other. As to the ruined temple, we have seen that it dates back well before the pilgrim's visit, and the same can be safely assumed also of the 'Stūpa mound', though neither of my visits offered an opportunity for its excavation.¹⁵

Accepting then the location at Mūrti of the Jaina site described by the pilgrim, we shall have to look for the capital of Simhapura north-westwards at the distance of 40 or 50 *li* indicated. Now this distance, whether we take the *li* at its usual value of one-fifth of a mile on the flat ground or one-fourth on hilly ground, is certainly greater than the one along the road between Mūrti and Ketās, which measurement with the chain showed to be $4\frac{3}{4}$ miles. General Cunningham had at first felt inclined to place the capital of Simhapura on the rocky ridge of Kotēra rising steeply some 200 feet above Ketās to the west. But though I found the top of the ridge covered for some distance with rough stones from completely decayed dwellings, the very confined space there available, only some 80 yards across at the top, made its occupation by an important town appear to me unlikely. Taking into account the recorded distance and bearing from Mūrti, I am led to believe it far more probable that the large village of Dulmiāl, some 3 miles to the north-west of Ketās, marks the position of the town of Simhapura. The antiquity and former importance of the place is abundantly attested by the great quantity of ancient coins, dating from issues of Graeco-Indian rulers downwards, which are annually collected after rain at and around it.¹⁶ I must hence regret that considerations of time did not allow me to make a closer survey of the locality.

felt 'very much inclined to believe that the pilgrim did not visit the place on this occasion and that he obtained his information about it at Takshaśilā and elsewhere'. Cf. *Travels of Yuang Chwang*, i. p. 251 sq. No definite ground for this belief is given.

As far as my personal acquaintance with localities mentioned in Hsüan-tsang's *Hsi-yu-chi* goes—and it extends from the Pāmirs and Lop to Swāt and Rājgir—such exact descriptions of details of scenery are given by the pilgrim only for places which he must have visited in person.

I may note that Hsüan-tsang's reference to the 'dragons, fish and other water tribes' might well have been suggested by the plentiful eels to be found in the Mūrti pools, and that to the 'cavernous depths' in which they are said to move about, by the numerous deep cavities which the stream has cut into the foot of the hillock.

¹⁵ Here a curious piece of information gathered from Devī Dyāl, the aged Brahman Purohita of Chōa Saidān Shāh, may find mention. At an inquiry held by me in 1890 among the village elders concerning the materials quarried from Mūrti, he mentioned having heard from his father that travelling *sādhus* had described the ruined temple as having been built 'before the time of Rājā Mān' by a Jain minister as a place of prayer and meditation for mendicant priests. Is it possible that tenacity of Jaina tradition had retained some faint recollection of the sanctity originally attaching to the spot?

¹⁶ Among those purchased by me at Ketās in 1889 and declared to have been found at Dulmiāl were a rare copper coin of Queen Agathokleia, and coins of Straton and Indo-Scythian kings as well as of the Gupta dynasty.

From Chōa Saidān Shāh we took occasion to pay a visit also to the village of Malōt, some 15 miles by road to the west, where a comparatively well-preserved Hindu temple of Kashmirian style invited renewed inspection. It stands in impressive isolation on a bare rocky spur close to where the southern edge of the Salt Range, here nearly 3,000 feet above sea-level, falls off with precipitous cliffs towards the plain. The temple, together with the massive gateway which faces it, as in the case of the larger Kashmīr temples, has been adequately described by General Cunningham.¹⁷ Since his visit in 1872-3 it appears to have suffered deterioration in the relief decoration on the outside. It was all the more gratifying to note the measures of conservation which both structures have received in recent years as 'Protected Monuments'. Both the architectural features and the execution of the exuberant relief designs ornamenting the trefoil arches above porches and niches indicate an earlier date for temple and gateway than that of the extant shrines of Nandana and Ketās.

On the rocky hill-side to the north, and at a distance of about one-third of a mile from the temple, there stands the modest village of Malōt. A steep drop in the slope below it provides a good defensive position, and this has been protected by curtain walls of rough masonry. Through them leads a fine well-built gate flanked by crenellated bastions, both closely resembling those seen at the fort of Kusak and probably of similar date. Local tradition connects Malōt with Rāja Mal, an early chief of the Janjūa tribe who is supposed to have been the first converted to Islām.

It only remains to mention that about $2\frac{1}{2}$ miles to the north-east of Malōt a little hollow filled with luxuriant vegetation holds the small Hindu sanctuary of Shibgangā by the side of a pool fed by springs, gathering on marshy ground higher up to the east. The temple is constructed in the Kashmirian style, but it has been so heavily covered with plaster that none of the original decoration of the walls is now visible.¹⁸

SECTION II—OLD SITES IN THE SHĀHPUR DISTRICT

On December 9th we set out from the Salt Range for the plain by the Jhēlum, not without regret at having to leave so interesting and attractive a region. On our descent by the road which connects Chōa Saidān Shāh with Pind Dādan Khān, the sub-divisional head-quarters, and with the railway, I had an opportunity of revisiting the great salt-mines of Khewra. There a huge deposit of

¹⁷ See *Archaeological Survey Report*, v. pp. 85 sqq.

¹⁸ Cf. Talbot, *Gazetteer of the Jhelum District*, pp. 40 sqq., for some account of a Buddhist relief

sculpture which was found in the neighbourhood and deposited at Shibgangā but is now at the Lahore Museum.

rock salt has been worked probably from very early times. Excavations which have produced *inter alia* a vast hall up to 300 feet in height, before the introduction of modern methods of mining, must have proceeded for centuries. But the inquiries made through the obliging superintendent in charge yielded no information about old remains. The salt-mines of the Salt Range are mentioned both by Strabo and Pliny,¹ and as the former distinctly places them in the country of Sōpeithes, whose palace, as we are told by Arrian, lay on the Hydaspes three days' journey below Boukephala and Nikaia,² it appears probable that the mines of Khewra, the greatest and best known among them, certainly since medieval times, were worked already in the days of Alexander's invasion.³ But no doubt salt was then worked at other available spots also, just as it was up to the time of the British annexation. The salt formation marked usually by overlying brick-red gypsum crops out along almost the whole of the southern face of the range.

The object of the tour started after reaching the old town of Bhēra on December 10th, was to gain acquaintance with any old sites to be traced along the Jhēlum as far as its course lies within the Shāhpur District. The tour was subsequently to be extended to the sandy tract of the Thal within the Miānwālī District east of the Indus, where reports of extensive mounds suggested early occupation of ground now abandoned to the desert. The town of Bhēra on the left bank of the Jhēlum, still an important local centre, retains the name of an ancient territory which Fa-hsien, coming from Bannu (*Po-na*) and crossing the Indus about A.D. 401, mentions under the name of *Pi-t'u* (Bheda).⁴ It is known that the present site of the town has been occupied only since the time of the Emperor Shēr Shāh, who about A.D. 1540 moved it there from the right bank of the river, where Bābur on his first invasion of the Panjāb, A.D. 1519, had still found it.⁵

The site of 'Old Bhēra', as it is still locally known, is represented by a large debris-covered mound situated to the north of the village of Ahmadābād close to the hamlet of Sardār-kōt, and about $3\frac{1}{2}$ miles across the river from Bhēra.⁶ The mound rests on an outcrop of sandstone not far from the right bank of the

¹ See Strabo, *Geographia*, xv. xxx ('in the country of Sōpeithes there is a mountain of salt got by quarrying which could supply all India', a statement perfectly true); regarding Sōpeithes or Sōphytes, see below, note 8. Pliny, *Historia nat.* xxxi. vii, §77, mentions Mount Oromenus in India among the mountains that are formed of native salt.

² Cf. *Anabasis*, vi. ii. 2; iv. 1. About the location of Sōpeithes's palace, see below, p. 60.

³ For a full account of the Khewra salt-mine and

its working, also of what is known of its history, see Talbot, *Gazetteer of the Jhelum District*, pp. 187 sqq., with references to earlier publications.

⁴ See Beal, *Sī-yu-ki*, p. xxxiv; Giles, *Travels of Fa-hsien*, p. 19.

⁵ See *Memoirs of Bābur*, transl. by Mrs. Beveridge, p. 382; also Talbot, *Gazetteer of the Jhelum District*, p. 38.

⁶ Cf. Cunningham, *Archaeol. Survey Report*, v. p. 96.

river and rises to a height of about 25 feet above the alluvial ground. Its top measures about 190 yards from east to west and not much less across. Apart from the abundant debris from mud- and rubble-built dwellings no structural remains are traceable on the surface. Finds of copper coins are frequently made here; among the coins brought by villagers, all badly worn, three were recognizable as Muhammadan, while two thick oblong pieces might possibly be more ancient. Among the pottery fragments picked up, all the painted ones as well as the moulded or ribbed ones looked medieval (see Bhera. 1, 7, 14, 18, 22; Pl. I).

Indications of far older occupation are to be found on the top of two of the low sandstone hillocks known as *brāri* (or *burārī*) which crop out above the alluvial plain in the vicinity. The larger one, rising to a height of about 45 feet, with slopes much eroded, is covered with plentiful potsherds of earlier types. Among them may be mentioned numerous fragments showing such 'ribbing' as in Balūchistān and elsewhere I have found frequent in pre-Muhammadan ware (Bur. 3, 13, 14; Pl. I), as well as pieces decorated with moulded or painted patterns (Bur. 4). Similar pottery is found also on the smaller hillock crowned by the tomb of Khusro Khān, now visited as a *ziārat*. The thick walls enclosing this tomb are built with slabs of red sandstone, some of which show relief ornamentation, clearly proving that these materials have been brought here from some Hindu structure.

General Cunningham proposed to locate at 'Old Bhēra' or Ahmadābād the palace of Sōpeithes which Arrian mentions as the place on the Hydaspes where Alexander after a three-days' voyage down the river rejoined the forces sent along either river bank under Krateros and Hephaistion.⁷ From the narrative of Arrian it is clear that Alexander himself started with his fleet from the vicinity of Boukephala and Nikaia, i.e. from Jalālpur or some distance lower down. The distance of approximately 35 miles between Jalālpur and Ahmadābād would fit in with the proposed location, as also with Strabo's reference to the mountain of salt got by quarrying situated in the country of Sōpeithes.⁸ The fact that Bhēra has preserved the name of a territory which Fa-hsien already knew by that designation points to its marking an ancient place of importance and supports the proposed location.

From Bhēra I proceeded on December 12th to visit a number of old mounds

⁷ See *Anabasis*, vi. ii. 2, iv. 1; Cunningham, *Archaeol. Survey Report*, v. p. 96.

⁸ Strabo, *Geographia*, xv. xxx, has already called attention to the discrepancy found in the references to Sōpeithes, some writers, like Arrian, placing the country of Sōpeithes on the Hydaspes and others (such as Curtius and Diodoros) mentioning it to

the east of the Hydraotis or Rāvi. A likely explanation is that the classical references are to two different rulers. Regarding the true form of the name, *Sōphytes*, as attested by the Greek legend of a silver Drachma coined in India, and the Sanskrit *Saubbūta* of which it is the rendering, see M'Crindle, *Invasion of India*, p. 411, quoting M. Sylvain Lévi.

about which I had received information through the helpful local Naib Tahsildār, Lāla Indar Sain. The use of a motor-car placed them within convenient reach. At a distance of about 5 miles to the south-east of Bhēra the Reserved Government Forest of Rakh Chirāgha contains a conspicuous mound known as 'Amra-wālī Ālī'. It rises to about 20 feet and measures some 240 yards in diameter. Among the broken pottery which thickly covers its surface relief-decorated pieces were plentiful. Among the designs impressed from moulds I noted that several well known from the decorative style of Gandhāra, such as the four-petalled clematis, open lotus and rosette, recur frequently and are usually surrounded by a pearl border (see Amra. 3, 5, 7, 8, 14; Pl. I). Amra. 14 is a fragment of a mould and therefore indicates local production.

As the pearl motif is definitely associated with Sasanian art, it appears very probable that the occupation of the site dates back to that pre-Muhammadan period when the artistic influence of Īrān made itself felt in the north-west of India. The painted pottery showed simple designs in black over red ground, such as horizontal bands and festoons, affording no definite chronological clue. Three more mounds known as the Surkanwālī, Harmalwālī, and Rattapind 'Ālīs' were visited within the same area. They lie in a line approximately to the north-east at distances of half a mile to one mile from each other. The mound of Rattapind, the largest of the three, measures about 260 by 220 yards and rises to 20 feet in height. Relief-decorated pieces of the same type (see R.P. 6, 7, 11, 13; Pl. I) were found at all these sites. The mound of Rattapind yielded in addition three moulds of hard-baked clay for producing pearl border and leaf-shaped ornaments in relief (see R.P. 1, 2, 3; Pl. I). A few fragments of blue-glazed ware agreed with the previously suggested date.

A subsequent drive of some 12 miles along a branch of the Lower Jhēlum Canal then brought us to the old town of Miānī, once a prosperous place as shown by the fine wood-carved gates and façades displayed here as at Bhēra by decaying old houses. The plentiful supply of timber brought down on the Jhēlum accounts for this lavish use of architectural wood carving in both places. In much of its designs it is easy to trace the survival of motifs familiar from the Graeco-Buddhist reliefs of Gandhāra. Returning towards Bhēra we visited the large and very conspicuous mound known as *Sabz-pind* situated at 3 miles' distance from the west gate of Miānī and close to the railway line. It measures some 500 yards from east to west, with a maximum width of more than half its length, and rises to fully 40 feet in the centre. Erosion has cut deep ravines into the mound, disclosing everywhere layers of debris full of potsherds, broken bricks, and ashes. Bricks have been brought from this debris and deposited on three low barrows supposed to mark the burial-places of holy 'Naugaz Sāhibs' on a

plateau near the south-western end of the mound. Several among them showed the respectable dimensions of $15 \times 10 \times 3\frac{1}{2}$ inches.

Numerous pieces picked up among the potsherds, which thickly cover the mound, showed moulded decoration with small lozenges, rows of wave lines and similar simple patterns (S.P. 5, 9, 15, 23; Pl. I). The pearl border ornament with raised bosses is seen in S.P. 21. That occupation here dated well back into Hindu times is proved by the moulded fragment of fine dark-grey ware (S.P. 20; Pl. I) found on the top. It shows below a band of raised circlets the figure of a dancing female holding some object in her raised left hand. The heavy hair dress is thrown back. The design suggests a style somewhat later than that of the Gupta period. A silver coin of Sāmantadeva brought from this mound and shown to me at Bhēra together with other indications suggested that the site was occupied down to the period of the Hindu Shāhiyas. In consequence apparently of a treasure trove made here some years ago, the Sabzpind mound has been declared a 'Protected Monument'.

A large mound near the village of Hāthīpind, some 7 miles due south of Bhēra, was visited on the following day, but proved less interesting. It stretches for some 340 yards from east to west and throws out an arm of equal length to the north-east, a portion of it being occupied by dwellings. What relief-decorated potsherds could be picked up showed only coarse patterns of cable scrolls, lozenge diapers, and the like. On the comparatively rare painted pieces the designs, black on red, were of the simplest (for specimens see Hathi. 1, 4, 10, 13; Pl. I). The mound, which rises to about 23 feet where highest, may not date back farther than medieval times.

On December 14th we moved our base from Bhēra to Shāhpur, the former head-quarters of the district to which it has given its name. Two small mounds were examined near the villages of Nabī Shāh and Dhal, both situated on the main road about $6\frac{1}{2}$ and 9 miles, respectively, from Bhēra. Among the potsherds found in plenty on these mounds, painted and relief-decorated pieces (Nab. 6; Dhal. 1, 8, 9, 13, 16, 19, 20; Pl. I, II) were numerous. They show a variety of patterns closely resembling those seen on the corresponding ware from the 'Ālīs' of Rakh Chirāgha. On the other hand, pottery of this type or else bearing stamped designs was conspicuously absent on the extensive mound, more than 350 yards in diameter, which we subsequently inspected in a scrub- and tree-covered area known as Chak Mubāra, situated to the south-east of Nūrpur village, off the main road some 12 miles to the south-west of Bhēra. The site is locally known to have been sacked in the course of an Afghān invasion during the reign of the Emperor Muhammad Shāh in the early part of the eighteenth century, and to have since been abandoned to the jungle. Hence the rarity of relief-decorated

and painted ware such as Nur. 1, 5 (Pl. I) on this ground affords some useful evidence, be it only of a negative kind, for the dating of the previously mentioned sites.

A subsequent excursion made from Shāhpur due east along the road towards Bhalwāl showed a large site near the village of Gurtāla at a distance of about 3 miles. The debris-covered area here measures about 380 yards from south-east to north-west and not much less across. It has been largely dug up for the extraction of saltpetre. Among the abundant potsherds fragments of painted ware, of finer execution than elsewhere and with considerable variety of designs, were frequent (Gur. 1, 5, 8; Pl. II). Among relief-decorated fragments, recalling those from Rakh Chirāgha, pieces with irregular tracery and volutes (Gur. 9, 14; Pl. II) were particularly noticeable. Gur. 17 (Pl. II) is a figurine representing a grotesque beast-head. That the occupation of this site goes back to pre-Muhammadan times appears very probable. This conclusion is supported by the observations made at a smaller mound situated close to the village of Sahnu, some 8 miles farther on by the same road and similarly much disturbed by digging for saltpetre. Apart from painted and moulded pottery remains (Sahnu. 6, 13, 16; Pl. II) resembling those of Gurtāla, we collected here several much-corroded copper coins which certainly looked pre-Muhammadan. One shows a design suggesting a barbarous imitation of the figure of Athene as frequent on certain Indo-Greek coins.

A subsequent visit paid to a ruined fort near Akil Shāh, about 2 miles to the north-west of the former Shāhpur cantonment, showed that its remains had been occupied down to comparatively modern times. It was different with a mound examined at Chak Haripur about 6 miles to the south-east from Shāhpur. This mound rises to about 30 feet above the alluvial ground irrigated, like the rest of the neighbouring area, from inundation canals of the Jhēlum. Here the pottery showed the same types as noted before at Gurtāla. On the top of the mound, which is about 80 yards in diameter and is now occupied by the dilapidated mansion of a former Sikh Jāgīrdār, we picked up a large brick of burnt clay, measuring $15 \times 10 \times 3$ inches, and thus corresponding in size to the old bricks noticed on the Sabzpind mound near Miānī.

On December 17th camp was moved to the small town of Sahiwāl, some 22 miles lower down the Jhēlum. Thence we visited the same day the group of large mounds collectively known as *Babūr*. These are situated about 10 miles farther south, a little over a mile to the east of the village of Nihang and near the place of Muhammadan pilgrimage known as Panjpīr (the 'five holy men'). The sketch plan (Plan 6) shows the relative position and the size of the mounds. The westernmost, marked *A*, is about 400 yards long and rises to a height of

about 45 feet; it is occupied on its top by a mosque and the habitation of a faqīr. The mound, which is thickly covered with potsherds, consists wholly of debris accumulations from houses built with sun-dried bricks. The remains of walls from such dwellings are clearly traceable at different points in the deep ravines which erosion has cut into the slopes of the mound on the east and south. At the foot of one wall thus disclosed a row of burnt bricks, measuring $15 \times 10 \times 2$ inches, formed a foundation. In a hollow just below this there was found a terracotta mould (B.A. 46), apparently meant to represent an enthroned figure.

Two small stones carved in relief were brought to us by the faqīr as having been similarly found where rain had laid them bare on the mound. One of them (B.A. 1; Pl. II) shows a well-modelled small figure floating in the air and evidently meant for a Gandharvī, as often represented in Graeco-Buddhist sculpture. The fragment appears to have adjoined the halo of a larger relief. The other stone is a slab (B.A. 047; Pl. II) about 6 inches square, divided into nine squares. Within these are shown in relief two birds and two open lotuses, while each of the four corners is decorated with a four-petalled clematis-like flower, a motif very common in Gandhāra reliefs. The subjects and style of these carvings leave no doubt about the mound having been occupied down to late Buddhist or Hindu times. This conclusion was supported by the evidence afforded by the relief-decorated pottery (B.A. 14, 15, 23, 25, 28, 33; Pl. II) on which were frequently to be noted patterns formed by rosettes within pearl borders and concentric circles and concentric oblongs. But there appears also reason to believe that occupation of the site started from an earlier period; for a considerable proportion of the painted pottery picked up (B.A. 3, 4, 6, 7, 12, 16, 20; Pl. II), with varied patterns in black over red and pink bands, showed a distinct resemblance to the painted ware which I had found on the mounds of Dera Ismail Khān surveyed in 1927 along the foot of the Takht-i-Sulaimān Range and in Northern Balūchistān, and which may safely be ascribed to late prehistoric or early historic times.⁹ There were picked up also fragments of shell bangles and a piece of glazed ware (B.A. 34) which may be ascribed to the eighth to tenth century A.D.

At a distance of about 240 yards to the east there is the still larger mound, B, extending for more than 700 yards in length and about 300 yards across where widest. Owing to repeated digging for manuring earth the height of the mound has been reduced to a maximum of 25 to 27 feet in the west, while elsewhere it is much less. The excavations have in many places laid bare walls of dwellings built with sun-dried bricks. The plentiful relief-decorated and painted potsherds showed close agreement in types with those found on mound

⁹ Cf. *Archaeol. Tour in N. Balūchistān*, pp. 8 sqq., 82 sqq., Pls. I-III.

A. Among the former may be specially mentioned fragments showing rosette borders above floral scrolls, rows of circlets and naturalistically treated leaves (B.B. 10, 18, 20, 22, 42; Pl. II). Bands of small shells in relief distinctly recall a method of ornamentation to be found also at the great Dabar-kōṭ mound in Northern Balūchistān.¹⁰

Several terra-cotta fragments include grotesque animals, portions of grotesque elephants' heads, and a grotesque mask, perhaps from a vase (B.B. 3, 4, 8; Pl. II). Among moulds are found those of an enthroned female deity and of a decorated jar (B.B. 34). The painted ware (see B.B. 35, 36; Pl. II) shows here, too, mostly designs in black over red or pink bands; they include naturalistic patterns of leaves and creepers as well as trellis and chequers, such as seen on the 'early historic' pottery above referred to.¹¹ The extent of these two mounds and the presence of several small ones in the immediate vicinity, as shown by the sketch plan, make it certain that a considerable settlement must have occupied the Bahūr site from early times down towards the close of the Hindu period. Curiously enough, the site was said to be visited by many Hindus a day or two after the annual Muhammadan pilgrimage to Panjpīr.

A long drive on the following day, combined with walks where the roads along the irrigation canal banks had to be left, enabled us to visit a series of mounds mainly to the south-east of Sahiwāl. The first near the village of Sikandri, about 2 miles in a straight line from Sahiwāl, is very conspicuous, rising to a maximum height of 32 feet above a debris-strewn area which measures some 270 by 170 yards. The painted and moulded potsherds (Sik. 2, 22; Pl. II) showed close resemblance to those of the Bahūr site. Some fragmentary bricks of burnt clay had three parallel incised lines on one face, evidently the mark of a brick-layer. A miniature brick, only $1\frac{1}{4}$ inches long, probably meant for a toy, curiously enough exhibited the same mark.

On proceeding via Firūka to the vicinity of the village of Macharkhādī, some 7 miles distant, we found there a line of considerable mounds echeloned in a line from north-east to south-west at intervals of about half a mile. Their heights varied from 18 to 25 feet, and their lengths from about 200 to 250 yards. Here, too, the incised-ornamented and painted pottery fragments (see M.K. 12; Fir. 4; Pl. II) closely resembled in types the Bahūr ware. On the top of the northernmost mound, where much of the mud-brick walls of dwellings had been exposed by digging for manuring earth, it was possible in the light of the setting sun to recognize layers of sun-dried bricks uniformly measuring $13 \times 8\frac{1}{2} \times 3$ inches.

Finally near the village of Kukrānī there was visited an extensive debris area which, including flat ground, stretches for some 520 yards from north to south.

¹⁰ See *loc. cit.*, Pl. XIV, D. 20; D.E.12.

¹¹ Cf. *loc. cit.*, Pl. II, Ch. D. 9, 13, &c.

Here, too, the pottery ornamented in colour or relief like the ribbed fragment (Kuk. 4, Pl. II) exhibited types agreeing with those noted at Bahūr. As an interesting find may be specially noted a well-modelled spout from a vessel, in the shape of a grotesque animal with eyes, ears, and whiskers carefully indicated (Kuk. 5; Pl. II). A large burnt brick exposed *in situ* measured $16 \times 10\frac{1}{2} \times 3$ inches. A collection of forty-seven much-corroded copper coins was brought by a villager as having been found in a small pot dug up at the site. It has been determined by Mr. J. Allan as comprising issues of the Kushan-Sasanian type, two legible coins being of Hormizd as Governor under Shāpur I (A.D. 264–72). The general impression I derived from the examination of the sites in the vicinity of Sahiwāl was that this tract, owing to the ease with which irrigation could be secured here by means of seasonal inundation canals from the Jhēlum, must have enjoyed special fertility and supported a considerable settled population since early times. The rest of the lower Chaj Doāb towards the Chenāb was, until the recent construction of the Lower Jhēlum Canal, a jungle-covered waste frequented only by semi-nomadic herdsmen—and cattle thieves.

On December 19th we left Sahiwāl for the right bank of the Jhēlum. Along this section of its course the river forms the north-eastern boundary of the great sandy area of the Thal, part of the Sindsāgar Doāb stretching away to the Indus. Proceeding to the north-west across well-cultivated ground liable to inundation at times of great floods, we forded after 5 miles the much-shrunk river to the village of Lāl Husain. It was of interest to note that here, as also about Sahiwāl, most of the old cultivated land is owned by families of Balūch origin, belonging to that virile race which has pushed its way up the Indus since the late Middle Ages. It represents the latest foreign invasion from the south-west. The mound to the north-west of the village about which I had been told at Shāhpur proved a large one, measuring about 550 yards from the north-west to south-east and about half that across. But the plentiful potsherds, showing only simple painted designs and rarely coarse relief ornamentation (see Lal. H. 3, 5; Pls. I, II), indicated occupation not earlier than the Muhammadan period. With this conclusion agreed numerous pottery lids of modern shape found on the mound, and the Muhammadan copper coins which were brought to us by the Balūch headman of the village.

A five miles' ride along the narrow but fertile riverine belt brought us thence to Girōt. Adjoining the village on the south-west is debris-strewn ground stretching away for half a mile to an old mosque of some size, said to date from Akbar's time. Near it is found a temple of Krishna frequented by *sādbus*, and a place of pilgrimage for Hindus. The pottery remains proved of the same type as at Lāl Husain, belonging to the Muhammadan period.

SECTION III—VISIT TO MIĀNWĀLĪ AND START FOR PERSIAN
MAKRĀN

On December 20th a motor drive of some 73 miles carried us first along the river to Khushāb and then along the northern edge of the Thal to Miānwālī, the head-quarters of the district of the same name that stretches from the western extremity of the Salt Range down the left bank of the Indus. The ground intervening between the latter and the lower course of the Jhēlum is extremely arid. The consequent difficulty about water, obtainable only at rare intervals from deep wells, must have at all times militated against the use of the route from here across the Thal, whether by armies or for purposes of trade. Otherwise the route leading down the valley of the Kurram to Īsa Khēl on the Indus and thence via Miānwālī to Khushāb would offer a convenient line of access for invasion from the Afghān uplands to the central portion of the northern Panjāb. This explains why all inroads from those uplands, since those of Maḥmūd of Ghazna down to the Durānī invasion, were made across the otherwise more difficult ground of the Salt Range.

I had wished to reach Miānwālī without more delay, partly in order to collect there information about sites in the now semi-desertic tracts of the Thal down the Indus, which might possibly offer traces of occupation in prehistoric times, and partly in order to be on a main line of railway communication to Karachi in case news were received permitting an early start on our expedition into Persian Makrān. The two days after our arrival at Miānwālī were busily occupied in gathering information about old mounds in the district. These inquiries were much facilitated by the kind help of the Deputy Commissioner, Mr. J. Read, I.C.S. Their result clearly indicated that mounds of probable antiquity in this as yet archaeologically unsurveyed district were more numerous than the limited area of its present cultivable ground might have suggested.

Then on December 23rd I paid a visit to Rōkhrī, a village situated 6 miles to the north on a side bed of the Indus, which carries water at the time of the summer floods. Here an exceptionally heavy flood in the summer of 1928 had laid bare a structure built with cut stone and mortar about half a mile to the north-east of the village. Judging from the villagers' description, it appears to have been a small *stūpa* or rotunda. A flood in the following year had swept it away, and all I could find *in situ* were some large slabs of cut stone which seemed to have belonged to the foundation. In front of them a flight of steps was said to have been exposed. A seated figure of stucco found above this was stated to have been removed to the Lahore Museum. Close examination of the

find place, which is now about 70 yards to the west of the steeply eroded bank of the flood bed, showed that the foundation of the structure lies 15 feet below the top of this bank. As the structure was described to me as having stood to a height of about 10 feet, its top may be assumed to have been buried under 5 feet of alluvium.

The observation is of some interest as it affords an indication of the approximate rise of the ground-level which has taken place since Buddhist times in this riverine belt liable to inundation from the Indus. Stucco sculptures, undoubtedly Buddhist and of the Gandhāra style, had previously been brought to light in the vicinity of Rōkhrī by a flood of 1868.¹ These are now in the Lahore Museum. But the exact spot of this former discovery could not be indicated to me. Close search made along the present bank of the river branch showed only stratified alluvial deposits without any potsherds or other old remains, apart from some much damaged brick walls lining a well, apparently of no great age.

Close to the western edge of the village there extends a large debris area which in recent years had been extensively dug up for *sbōra*, or saltpetre, and manuring earth. It measures about 440 yards along the bank of the river branch and about 260 yards across where widest. The bank below, about 8–10 feet high, is everywhere clear of potsherds. This shows that occupation of this ground did not start until at least this amount of alluvium had been deposited above the level of the ruined structure just described. The coarseness of such painted pottery and rare relief-decorated ware as could be found on the mound points to its late occupation, probably in Muhammadan times. It deserves to be noted that the width of the belt to the west of Miānwālī liable to inundation from the Indus is fully 10 miles. This suggests that the position of localities occupied within or near this fertile *kacbbī* area must have been liable to considerable changes during historical times.

On our return to Miānwālī that evening I found a telegram awaiting me from the Indian Foreign Department informing me that the Persian Government were now prepared to make arrangements for the escort, &c., to meet us on our entry into their territory. I had decided long before that this would have to take place from the port of Gwādur near the south-western extremity of British Makrān (Map, Sheet I). The earliest available steamer of the British India Company, whose mail boats touch that small port only once a fortnight, was to leave Karachi on January 3rd. The interval would just suffice for the manifold preparations which the sudden change of programme demanded. The incidence of the Christmas and New Year holidays, strictly observed by Banks and Public Offices in India, was bound to add to the difficulty of completing our

¹ See *Gazetteer of the Mianwali District* (Lahore, 1916), p. 23.

arrangements, and this made me appreciate all the more the advantages which the Miānwālī head-quarters afforded in respect of telegraphic and postal communication. The hoped-for visits to reported sites in the district as well as to Mount Sakēsar, the highest point of the Salt Range now within easy reach, had, of course, to be abandoned.

A long railway journey brought us by the morning of December 30th to Karachi. There the remaining few days were fully occupied in the work of securing Persian visas, passports for surveyor and servants, excavation equipment, &c., and, last but not least, the funds required. Anxiety about Dr. Fábri, who had been attacked by bronchitis at Miānwālī, was fortunately soon removed, as he had benefited greatly by a few days' good rest. But it was a relief when the strain of all those hurried arrangements was ended and we found ourselves on the morning of January 3rd, 1932, safely embarked with all our impedimenta on board the S.S. *Baroda*.

CHAPTER III

EXPLORATIONS IN PERSIAN MAKRĀN

SECTION I—BURIAL SITES OF DAMBA-KŌH AND ITS NEIGHBOURHOOD

IN the forenoon of January 4th, 1932, we landed at Gwādur, the westernmost of the small ports on that portion of the ancient coast of the Ikhthyophagoi which falls within the limits of British Makrān. In the course of my Makrān tour of 1927-8 I had already visited Gwādur and examined whatever old remains in that neighbourhood could be traced.¹ Attention had been called to them first in a paper by Major E. Mockler published half a century before;² but two of the sites there noticed, and those of evident interest, had remained beyond my reach as they were on the Persian side of the frontier and in a tract which at the time was disturbed and practically independent. Conditions there had fortunately changed since the Persian Government had meanwhile succeeded in establishing effective control over most of Persian Balūchistān. Thus it had become possible for me to choose Gwādur as a suitable starting-point whence to resume and extend my labours bearing on the ancient remains of Gedrosia.

Gwādur town and a strip of territory extending in an arc to about 10 miles from the coast form an enclave within British Makrān, belonging since the last quarter of the eighteenth century to the Sultāns of Masqat. But the arrangements which Colonel Brett, Resident in the Kalāt State, had kindly made at my telegraphic request, rendered it possible for me to be met punctually on arrival there by an escort of camel riders from the Makrān Levy Corps, and an adequate supply of camel transport for the move inland. So we were able to leave that far from inviting little port with its very meagre resources on the following morning for Suntsar, the nearest post of the Makrān Levy Corps. From there final arrangements for our move into Persian territory were to be made. The two marches which brought us to Suntsar on the Dasht river, all over desert ground, led along the same route which I had followed in January 1928 in the reverse direction. Like Gwādur, it has been described by me before.³

Before crossing the Dasht river-bed, practically dry at the time, I was able to revisit the important prehistoric site of Sutkagēn-dōr on the left bank of

¹ See *Archaeological Tour in Gedrosia*, pp. 71 sqq.

² Cf. *J.R.A.S.*, 1877, pp. 122 sqq.

³ Cf. *Archaeological Tour in Gedrosia*, p. 72.

the river about $1\frac{1}{2}$ miles below the Suntsar Levy post. I had carefully surveyed the site in 1928, and the results of the search then made of its surface remains and of the trial excavations carried out during a week's stay have been fully recorded in my account of 'An Archaeological Tour in Gedrosia'.⁴ Hence it will suffice to make the briefest reference here to such supplementary relics of household ware, in use during chalcolithic times, as could still be picked up on the surface. Rain, rare as it is in this region and never prolonged, had sufficed to wash them to the surface. Among such specimens may be mentioned a small pottery jar (Sut. 1; Pls. III, XXXI); fragments of cylindrical pottery vessels with perforated walls, probably used for heating or warming food (Sut. 5; Pl. I); of red or grey clay bangles (Sut. 16; Pl. X), very numerous as at all chalcolithic sites of Balūchistān; of ornaments of shell (Sut. 22; Pl. X). The abundance of small stone implements in use at the time is illustrated by more than two dozen flint 'blades' or 'scrapers' (Sut. 37; Pl. XXX), mostly small, being collected during our brief halt. The finds of small copper pieces and of the fragments of a dark grey glass bangle (Sut. 13) are in full accord with previous observations made at this interesting early site. The striking rarity of painted pottery previously noted at Sutkagēn-dōr accounts for the fact that not a single specimen of such ware could be found now.

The Suntsar post is the southernmost of the small stations along the border which are held by detachments of the Makrān Levy Corps, as if they were *burgi* of a Roman *limes* on some desertic African or Near Eastern frontier. There we were met by Captain V. M. H. Cox, Assistant Resident in Makrān. The orders kindly given by him provided for camel transport to take us into the Dashtiārī tract as well as for an escort of eight Levy camel riders who were to remain with us until the expected Persian escort should join us. Before our start on the following morning, January 7th, an opportunity was offered for some rapid archaeological work at a small group of burial cairns situated some 200 yards to the south-west of the post, and on the same gravel terrace overlooking the river-bed. They had escaped attention on my first rapid passage through Suntsar, being marked merely by scattered low stone heaps, some two dozen in all. In the reports on my previous explorations in Balūchistān and Makrān I have had repeated occasion to describe such burial sites, where the scanty remains of human bodies previously exposed to birds and beasts are to

⁴ Cf. *ibid.*, pp. 60-71. I may take this opportunity to record that the proper pronunciation of the local name as now heard from nomadic Balūch of the neighbourhood was Sutkagēn-dōr (as also given by Major Mockler, *J.R.A.S.*, 1877, p. 122), the form *sutka* 'burnt' prevailing in the local Balūch

dialect over *sukta* as the equivalent of Persian *sukhta*. The name owes its origin to the red colouring which the great amount of well-burnt potsherds strewn the ground gives to the whole site as seen from a short distance.

be found deposited within cairns, usually along with some pottery or other modest belongings of the dead.⁵ Those burial cairns or *damb*s, as they are known in Makrān, had been traced by me before from Zhōb far away in the north right down to the coast of the Arabian Sea.

There is no need to discuss here afresh the abundant evidence which proves that the burial customs attested by these *damb*s were practised during prolonged periods extending within the Iron Age down to some centuries after our era. There will be an opportunity presently offered for considering some questions relating to these customs in connexion with the great site of Damba-kōh. Here it will suffice to state that the cairns found at Suntsar were all of the simplest type, consisting of rough circles of stones with a low heap of earth and gravel in the centre, ordinarily overlaid with a few larger stones. Six of the cairns were opened within the short time available before our start. All of them contained small pieces of human bones, in some cases associated with potsherds. In one cairn there was found a small patera-shaped pottery bowl, Suntsar. 1 (Pls. III, XXXI), wheel-made, of red body, 6½ inches across at the mouth, with a short stem and a foot 2¼ inches across. Other finds were part of a wooden comb (Suntsar. 2; Pl. X), cut into a concave curve from edge to edge, and fragments of clear white glass.

A march of some 21 miles due west across absolutely waterless ground was made trying by a violent gale from the south. Short showers of rain accompanied it without laying the dust raised. By nightfall we reached a halting-place marked as Warī on the quarter-inch Survey map, No. 31. G, where water could be obtained from a small stream. Next day, after a couple of miles, the track passed into an area of much broken and utterly barren hills, and crossed the undemarcated Persian border. The route thence led west along the foot of the low Sāmān hill chain until, after about 16 miles, the wide flat plain formed by the alluvial deposits of the Bāhū river was entered (see Map, Sheet I). The main portion of the Dashtiārī tract consists of this great expanse of level clay which extends for more than 45 miles from north to south with a width nowhere less than 20 miles. The potentially fertile soil supports low scrub in patches. But cultivation is wholly dependent on the scanty and very erratic rainfall, which in certain years fails to fill even the embanked pools that generally furnish the only supply of drinking-water. Hence the present occupation of the tract is limited to a few hamlets, and even at these it is mostly intermittent.

The difficulties in the way of cultivation have become still more marked over the eastern portion of the area since the Bāhū river fed by streams from the

⁵ See *N. Balūchistān Tour*, pp. 46 sq., 54, 70, 76 sq.; *Tour in Gedrosia*, pp. 34, 56, 74 sqq., 85 sqq., 149 sq., &c.



22. POTS AND IRON JAR FROM BURIAL CAIRN,
II. iii., DAMBA-KÖH



23. KNOLL, DAM. I, WITH REMAINS OF
DWELLINGS, DAMBA-KÖH



24. SITE OF DAMBA-KÖH, WITH BURIAL CAIRNS, SEEN FROM SOUTH

hills of Sarbāz has changed its course westwards. Abandoning its former channels it has turned into a narrow deep-cut bed which precludes its water being utilized for irrigation even when the river is in flood. Thus we found the hamlet of Basōt, passed a couple of miles after entering upon the alluvial plain, completely deserted. Marks of old cultivation long ago abandoned were to be seen in places before the hamlet of Balūr Māch was reached after a march of 24 miles. There a well and a small grove of date-palms accounted for continued occupation.

Above the level plain east of the Bāhū river there rise abruptly isolated rocky ridges resembling islands, and composed of layers of clay and calcareous sandstone. One of the largest of them, situated about $2\frac{1}{2}$ miles to the north of Balūr Māch and known as Damba-kōh,⁶ bears the extensive burial site to which Major Mockler had first called attention.⁷ Its southern extremity, as the sketch plan (Plan 7) shows, rises in a series of connected hillocks to heights from about 210 to 350 feet above the alluvial flat at its foot. The slopes and parts of the crests, too, of the hillocks are occupied by burial cairns for a distance of about three-quarters of a mile from north to south and for more than half a mile across. These are all constructed with uncut slabs of stone from rock *in situ*, but vary in size and shape. A rough enumeration, made by the Surveyor and recorded in the plan, shows a total number of more than 1,700 cairns. As others are to be found in scattered groups along the hill slope farther north, it appears probable that the total number for the whole site cannot fall much short of two thousand. As shown by the photograph (Fig. 24) taken from the southernmost hill-crest, the whole picture conveys a curious impression, as if the hill-sides had suffered from eruptions like small-pox.

A completely isolated small hillock, Dam. I, situated to the south-east in a small valley and rising at its north-western end to a height of about 140 feet, bears the remains of much decayed dwellings built with uncut stones. Plentiful pottery debris covering the slopes and other indications left no doubt from the start about this hillock marking a site occupied by the living. The same was the case at a spot about a quarter of a mile off to the south, and measuring about 90 yards in diameter, where the ground was thickly strewn with potsherds. I shall further on discuss the remains of the hillock, Dam. I, and of this small *tati*, to use the term familiar to me from desert sites of this kind in the Tārīm basin. Past the eastern foot of the ridge there runs a depression, filled with

⁶ See Map, Sheet I. The Survey map, No. 31.G, based here and elsewhere in this area on 'reconnaissance work' only, shows the ridge, with the entry 'Damba-kōh, Ancient Caves', about $1\frac{1}{2}$ miles too far

north. For other topographical rectifications see below, pp. 78 n. 15, 135 n. 1, 170 n. 2.

⁷ Cf. *J.R.A.S.*, 1877, pp. 126 sqq.

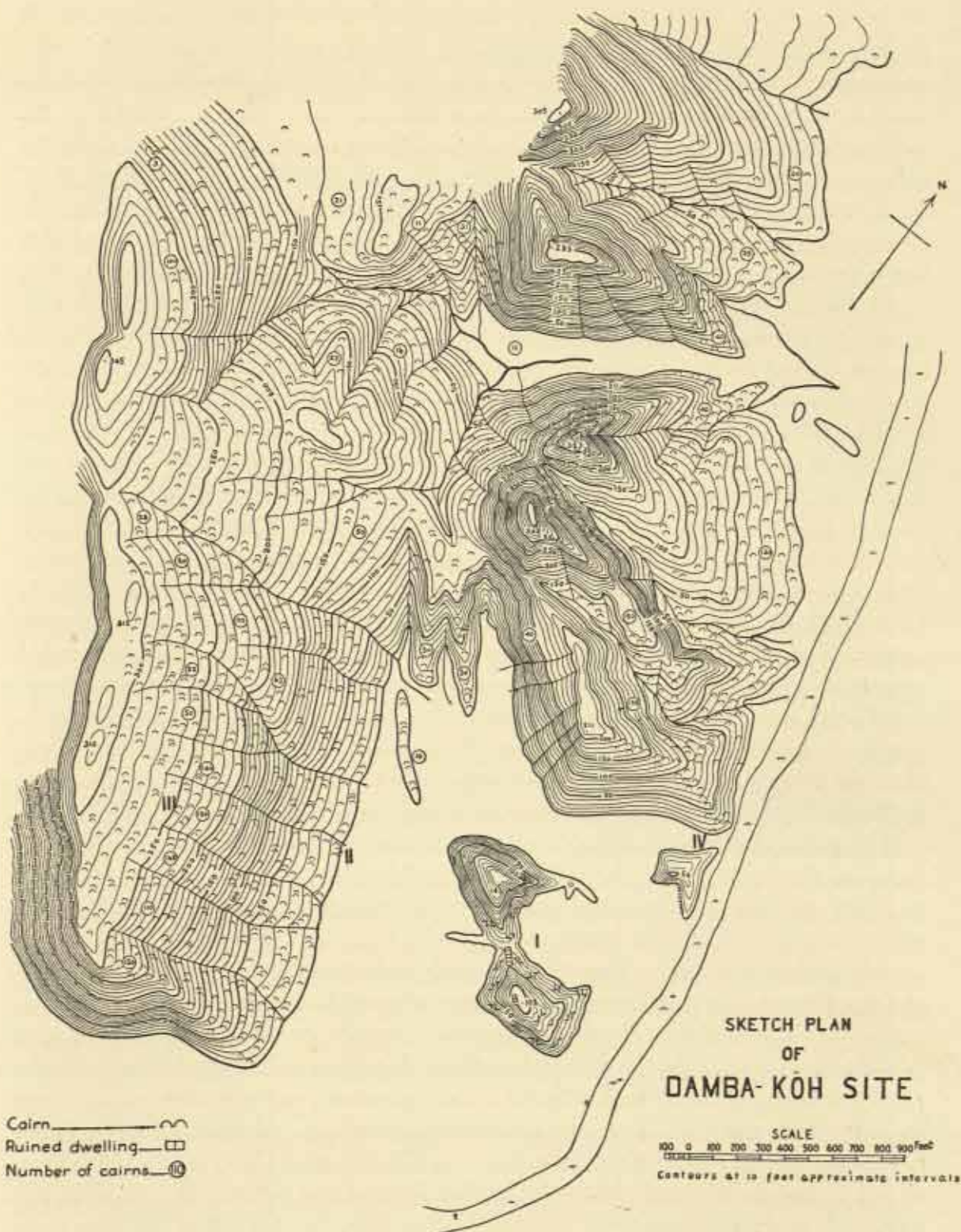
scrub and lined by tamarisks; this is obviously one of the former beds of the Bāhū river. It has been closed in places by low dams meant to catch rain-water and thus to facilitate cultivation, now abandoned.

The cairns, as already stated, vary considerably in construction. Some of them are built with roughly rectangular walls formed of irregular slabs of free-stone rising to 4 or 5 feet in height. The space enclosed by these walls measures usually from 5 to 6 feet square and is filled with loose earth, over which large flat stones have been laid to form a kind of roofing. Frequently one of the side walls shows a small opening similarly roofed over, and intended to represent an entrance. Some of the cairns of this type found near Group II, at the foot of the southernmost hillock, had their roofing stones removed (Fig. 22). They appear to have been among those which Major Mockler had opened and described as 'small houses'. Often the walls, set up without earth or plaster between the courses, have fallen away, leaving the cairns in the condition of shapeless stone heaps. Cairns of another and very frequent type present the appearance of mere small mounds of closely packed uncut stones, arranged in a rough circle or oval. But in their case, too, there is always an interior space containing loose earth heaped over the burial deposits. It will be seen from this that the types of construction used for these burial cairns correspond closely to those observed at the large burial-grounds examined on my former Makrān tour at the sites of Jīwanrī and Zangiān.⁸

The same remark applies to the character of the deposits found within the cairns, of which altogether forty-two were opened. On the day after our arrival at Balūr Māch, Mīr Aḥmad Khān, the aged chief of Qal'a-i-Bāhū, had joined us, and with his readily offered help it became possible to collect from the few scattered hamlets east of the river the needful number of labourers for trial excavations. After starting these daily I was able to leave their supervision to Dr. Fábri for the rest of the time, and thus became free for the long rides which were to acquaint me with other old remains Mīr Aḥmad Khān knew of in this tract. The cairns chosen for examination belonged to three distinct groups, those marked II and III being situated near the foot and top, respectively, of the southernmost hillock, and that marked IV on the slope of the one farthest away to the north-east.

The objects found in the cairns of all three groups were of the same general character, though the extent of deposits varied. They comprised throughout fragments of human bones, usually small, none showing signs of burning. Close to these there were placed, usually against the enclosing wall of the cairn, either complete pottery vessels or potsherds of varying sizes. The former were

⁸ See *Tour in Gedrosia*, pp. 78 sqq., 87 sqq.



PLAN 7

always filled with earth, but remnants of foodstuffs were in some cases still recognizable at their bottom. The number, as also the shapes, of the earthenware vessels varied greatly as seen from the specimens reproduced in Pls. III, XXXI. Some were flasks, like Dam. II. iii. 65, 66; III. iv. 102; vii. 105; x. 101, a, b; others jars, III. iv. 103; xiv. 76, or short pots with a small spout on the side like III. x. 77, as frequently found at Jīwanrī. The jug III. xi. 104 has a loop handle and spout. In a few cases there were found very thin iron vessels, too, always badly perished, as in the case of II. iii (Fig. 22), where an iron tumbler, III. 69, and bowl and the elegant bronze tazza, III. 68 (Pl. XVIII), were associated with six pottery vessels. One of these, the flask, II. iii. 66 (Pl. III), shows four lugs on the widest part, pierced for cords, as found also on other flasks and jars. Several of the pottery vessels show coarsely painted annular and wavy lines with hatching, as III. iv. 102.

The jar II. vi. 75 (Pl. III) is of interest as it has a high loop handle, on one side of which is shown a pair of animals, perhaps meant for a tiger and hound, moulded in the round and standing on their hind legs. The painted spout of a vessel, IV. x. 123 (Pl. XXVII), has the shape of an animal's head. Apart from a number of green-glazed potsherds, found both within some cairns and outside (see Dam. II-IV. surf. 106; Pl. XXVII), a large glazed jar, II. iv. 99, deserves notice. The outside glaze, originally probably green, shows now a fine mottled green and golden lustre. Among miscellaneous burial deposits (for specimens see Pl. X) may be mentioned steatite and pottery spinning-whorls, like II. ii. 74; III. xvi. 88; the small stone vase, III. 15; many stone beads, III. xv. 90, 91, &c.; shell rings, III. xviii. 81; two iron javelin-heads (?), II. vi. 71 (Pl. XVIII); perforated hones like III. xviii. 79.

The general character of the deposits agrees so closely with that of the objects found at the cairn burial sites which I traced on my previous tours from Zhōb in Northern Balūchistān down to the coast of British Makrān that there can be no doubt about the burial practices which they illustrate belonging to approximately the same period. That this extended down to the early centuries of our era was proved by approximately datable objects found in cairns at Moghul-ghundai.⁹ The find of a Parthian copper coin made by Major Mockler in one of the ruined dwellings he searched at Dam. I, agrees with this dating.¹⁰ It has received striking confirmation from a much-corroded copper coin which came to light from cairn III. ii within a foot of the surface, and which Mr. J. Allan has determined as belonging to an issue of Sinatruces (77-70 B.C.). We have as yet no means of determining the earlier limit of the period. But considering how wide in extent is the area over which the same burial custom has now been

⁹ Cf. *N. Balūchistān Tour*, p. 47 sq.

¹⁰ See *J.R.A.S.*, 1877, p. 130.

traced by me right away from the uplands overlooking the Indus valley to Kermān and Fārs, it seems safe to assume that it was practised for a prolonged period.

The Damba-kōh site derives its special interest from the fact that here we find the burial cairns associated with remains which undoubtedly mark a place in contemporary occupation by the living. I have already referred above to the completely isolated hillock, Dam. I, which rises, as Plan 7 shows, in a recess between the southernmost portion of the ridge and the old river-bed. It consists of two rocky knolls, both falling away very steeply westwards and joined by a narrow saddle. The northern knoll, which is the larger, rises to a height of about 140 feet above the level ground, and the one to the south to a little over 100 feet. The south-eastern slopes of both being less steep are thickly covered with shapeless debris from the completely decayed walls of dwellings built with uncut stones, and from the terraces which once bore them. A narrow shoulder descends from the lower knoll towards the saddle or neck, and for a distance of about 80 feet affords somewhat more level space than is to be found elsewhere. This appears to have been occupied by a double row of small rooms built back to back, as seen in Fig. 23. The walls, built of roughly laid undressed slabs, still stood to a height of 3-4 feet on the west side, but were broken in many places both there and within. Eastwards, where the shoulder slopes more steeply, the walls had for the most part crumbled away altogether.

Heavy debris from the fallen portions of the walls covered the interior of the rooms. On clearing this away there was found, in a layer of soft earth and small stones, a variety of objects left behind by the dwellers. Among them were a number of roughly oblong querns, concave on their grinding surface and exactly corresponding in shape to those I had found at the chalcolithic site of Kulli.¹¹ The stone cylinder, i. v. 21, may have been used on such stones. Hones and fragmentary stone implements of uncertain use are i. iii. 22, 26; vii. 24, 27; a decorated spinning-whorl is i. iv. 52 (Pl. X). Beads of terra-cotta, glass, and carnelian (i. v. 41; iii. 31, 56, &c.) were numerous. Other small objects are the iron ring, i. ii. 40, and the thin silver (?) ear or nose ring, i. iii. 51 (Pl. X). Fragments of glazed pottery in various shades of green turned up in several of the rooms. The pieces of a large painted vessel, i. 46-50, deserve notice, as the style of its decoration agrees closely with that of painted fragments found within or near the cairns, and of the far more abundant painted potsherds picked up on the surface of the hillock, Dam. I, or below it.¹² When subsequently five

¹¹ See *Tour in Gedrosia*, p. 123, Fig. 42.

¹² The potsherds found mainly on the eastern slopes are marked Dam. i. E. (east); those from

ground around where they had been washed down are shown as Dam. i. surface.

more small rooms were cleared on the top of the southern knoll, the scanty relics found there were of the same kind as just described.

The plentiful fragments of painted ceramic ware of which specimens are reproduced in Pl. XXVII present particular interest by their close agreement in decorative style, on the one hand with the painted pottery recovered from the cairns of Jiwanrī and Zangiān in British Makrān, and on the other with the painted ware from sites in Dera Ismail Khān and Northern Balūchistān, which I was led tentatively to assign to late prehistoric or early historical times. As regards the former nexus it will be sufficient to compare the pieces i. surf. 22, 23, 24, 25; E. 12, 14, 27, 29, showing 'Greek' scrolls, zigzag bands, vandykes, 'triglyphs', &c., with the complete vessels recovered from cairns at Jiwanrī and Zangiān.¹³ The similarity to the latter type of painted pottery is illustrated by comparing details of motifs in i. surf. 9, 18, 20, 31, 32; E. 4, 5, 9, 10, &c., with those seen in a large number of specimens shown in Plates II-IV of my report on 'An Archaeological Tour in Wazīristān and Northern Balūchistān'.¹⁴

It is true that some of the incomplete patterns seen on such small fragments of fine grey ware as i. surf. 9, 14 (Pl. IX); i. 4, surf. 10, 11, 29, 31; E. 3, 11, 19, recall elements to be found also on chalcolithic painted pottery. But the possibility which this resemblance might suggest of the Damba-kōh site having been occupied also at a far earlier period than that of the cairn burials is precluded by the negative fact that not a single stone blade or scraper, so plentiful at all chalcolithic sites of Makrān, could be found here. On the other hand, the plentiful presence of plain 'ribbed' pottery, such as i. surf. 35; II-IV. surf. 110 (Pl. V), is significant of occupation in historical times, and so also the presence of green-glazed ware, including a piece, i. surf. 26, decorated in relief. It only remains to mention that the surface finds at Dam. I comprised also a terra-cotta style (i. surf. 5), beads of glass and terra-cotta as well as fragments of bronze vessels, glass and a decorated bone object (i. surf. 4, Pl. X).

While excavation work was proceeding at Damba-kōh between January 11th and 15th I was able to spare time for visits to three localities where Mīr Aḥmad Khān's information indicated old remains. The first place visited was a bare rocky ridge known as Kōh-i-Kashū, situated about 6 miles to the north-east of Damba-kōh.¹⁵ It was reached over a bare alluvial flat, broken here and there by shallow channels which water from the Bāhū river appeared to have reached in a not very distant past. The extreme western portion of the ridge rises about

¹³ Cf. *Tour in Gedrosia*, pp. 80 sq., 87; Pls. VIII, IX, XI.

¹⁴ Cf. *N. Balūchistān Tour*, pp. 8 sqq.

¹⁵ The Survey map 31. G applies the name Kōh-

i-Kashū erroneously to another island-like ridge about 4 miles away to the south-west. The positions indicated for the hamlets of Sirja and Ranjau require shifting south to the vicinity of that ridge.

120 feet above what appears to have been a former main bed of the river. Being separated from the remainder of the ridge by a narrow neck and protected on either side by steep slopes of calcareous sandstone, the top forms a small but easily defended natural stronghold. It measures about 90 yards from east to west and 25 yards across where widest. Approach to it on the east lies over the narrow neck, and is protected there by a bastion roughly built with uncut stones. Lower down along the southern slope remains of a rudely built circumvallation with towers are traceable amidst masses of rock debris. On approximately the same level and about 25 feet below the centre of the crest rises a small tower built with stamped clay on a high foundation of rough stonework. Legend connects it with a chief's daughter who, when her four brothers denied her to her wooer besieging the fort, starved herself to death. There were no structural remains calling for excavation. But 'ribbed' pottery and fragments of glazed ware suggested occupation in medieval times. The ground below to the south and west is covered with old Muhammadan graves.

Another site, known as Basōt from a now abandoned hamlet and situated about 6 miles to the south-east of Damba-kōh (see Map, Sheet I), proved similar to the latter in character, but smaller. A short rocky outcrop of calcareous sandstone about 60 feet high, running from east to west, is covered up to its crest with scattered cairns. Most are roughly circular and built with small pieces of disintegrated sandstone; none of them rises to more than $2\frac{1}{2}$ feet. Another small ridge, about 300 yards farther to the south, bears some ninety cairns on its gentle eastern slope. Some are of roughly rectangular shape, and better built. Here pieces of green-glazed pottery were frequent.

At a distance of about 600 yards to the east of these *dambas* there rises a small conical hillock to a height of about 180 feet, falling away very steeply on its northern and western sides. At its eastern foot it is adjoined by a small semi-circular circumvallation, measuring about 110 yards from north-east to south-west and some 50 yards across where widest. A line of much decayed dwellings raised on a clay bank from 8 to 12 feet high marks the enclosure. Here and there within this, as well as on the slope above, fragments of glazed pottery in rich green and blue colours as well as of plain flat-ribbed ware were to be found in plenty. The site is thickly covered with the remains of dwellings and walled-up terraces, all built with large undressed stones laid in irregular courses without plaster or earth. A number of thick potsherds showing broad ribbing, $1\frac{1}{2}$ inches wide, like Bas. 8 (Pl. XXVII), belonged evidently to vessels of large size. Fragments of painted ware, like Bas. 10, 11 (Pl. XXVII), showed designs similar to those seen at Damba-kōh. High up on the northern edge of the hill slag and burnt clay marked the position of a kiln. Here, too, the occupation of the

small site may safely be assumed to have been coeval with the construction of the cairns, and to date approximately from the same period as the remains of Damba-kōh.

A third and more distant site visited under Sirdār Mīr Aḥmad's guidance lay beyond the hamlet of Ruhgām, which was reached after a ride of 11 miles to the north-east of Damba-kōh. The flat waste passed on the way showed in places decayed old dykes and traces of abandoned cultivation. Ascending a shallow valley northward for about 2 miles from the few mat huts of Ruhgām, we arrived at the point where a low ridge flanking the valley on the west ends in a small bluff. This falls off with almost vertical cliffs towards a wide depression to the north. The bluff rises about 120 feet above the bottom of the valley, and being detached from the ridge offers a defensive position of considerable natural strength. The steep ascent leading up from the south-west passes three successive terraces, each about 20 to 30 yards wide, all covered with the remains of much decayed dwellings. Their walls, 5 feet thick in places, are built with massive undressed slabs of calcareous sandstone quarried on the spot and laid in rough courses without earth or plaster. Between the first and second terrace a gate can be recognized. The scantiness of potsherds, all undecorated, suggests that the small stronghold served only as a temporary refuge.

About one third of a mile to the south-west there starts a series of cairns extending for about 400 yards on low terraces along the foot of the ridge. They show exactly the same type of construction as those at Damba-kōh. Owing to the distance and the difficulty of securing adequate labour their clearing would have involved much sacrifice of time, and so could not be attempted.

SECTION II—THE CASTLE OF JAMSHĪD, GĪTĪ

On the night before the visit to Ruhgām, four Persian soldiers sent by the military commandant of Chāhbār had arrived, thus enabling me to discharge our Makrān Levy escort and to arrange for our onward journey. My intention was to proceed first to the Dashtiārī tract west of the river and, after examining what old sites might be traced in that somewhat less sterile area, to make my way to the sea coast at Chāhbār. Clouds had been seen to gather on the distant hills to the north, and however welcome rain might be for the poor occupants of the arid plain below, parched by a drought of more than a year, the resulting flood of the Bāhū river would threaten to cut us off from any further move for days if not a couple of weeks.

Our march on January 16th, starting from our Ladak camp north of Damba-

kōh, took us first through a gap in the hill chain westwards to the hamlet and fort of Ghazab. These had been abandoned since the river finally changed its course about a generation ago. About a mile to the west of Ghazab there rises in isolation a bold ridge to a height of about 250 feet, bearing on its narrow top the remains of structures known as the Qal'a-i-Naushirwān. As the name shows, local tradition attributes to them considerable antiquity, but I failed to discover definite archaeological proof of this. At the highest point of the ridge stand two small but massive structures built with undressed slabs set in mud plaster. The walls of one still rise to 15 feet and show a large window arched with horizontal courses. Repairs are indicated in places by small stones set in 'herring-bone' fashion, a method of masonry very common in modern buildings of Makrān. Lower down, a small fairly level plateau bears a row of small rooms showing the same kind of masonry as the structures above; nearby are the remains of a large enclosure supposed to have been used for stabling. What potsherds could be found were all plain and of coarse fabric, suggesting occupation of comparatively late date and short duration.

Turning thence to the south-west after a march of only 9 miles, we were obliged to halt for the night at the hamlet of Sand, to suit our old Sirdār's convenience. Fortunately rain held off in the mountains, and next morning the deep-cut flood bed of the river, fully 50 yards wide and quite unfordable after rain, could be crossed without trouble. The height of the banks into which the river has cut its bed since the latest change of its course is here well over 40 feet. This affords some indication of the great depth of alluvium which the river has deposited over this plain; it may also help to explain why our rapid survey failed to trace any relics of prehistoric occupation in this deltaic area.

The ground beyond Dalgān, where the ford lay, is reached in certain years by flood water from the Kājū Kaur, a western tributary of the Bāhū, and hence bears a less barren appearance than the eastern portion of the tract. But the small village about 14 miles farther on which the map marks as the 'Mīrī Bāzār', or chief market-place of Dashtiārī, was found quite deserted and the water in its tank too brackish even for the taste of the local people. They are mostly Jadgāls, speaking an Indian dialect apparently allied to Sindhī. They represent a tribe left behind by some unrecorded migration from the east of Makrān but now strongly affected in physical appearance by mixture with African slave blood.

We found drinkable water 2 miles farther on in a pool left behind by a flood of the Kājū Kaur. Proceeding from the camp pitched there we succeeded next day, after a long ride, in visiting two debris areas reported beyond the graziers' huts of Kumb. At the first, situated about 11 miles in a direct line to the north-west, a stretch of ground rising about 2 feet above the level flat and

measuring some 300 yards from north to south and some 100 yards across, is strewn with plentiful fragments of glazed pottery, relief-decorated ware, and glass bangles. Apart from two small pieces of porcelain, apparently Chinese, the specimens of glazed ware frequently show floral scrolls incised in a light slip under a brilliant glaze of varying shades of green, blue, and yellow (see Kumb. A. 1, 2; Pl. IV). The ware belongs certainly to medieval times, and shows close resemblance to a type of glazed pottery collected on my third Central-Asian journey near Sarbīsha above the Sīstān basin, and found also in British Makrān. Mr. R. L. Hobson ascribes this to Persian manufacture of the ninth to tenth century.¹ Some features of the technique suggest to Mr. Andrews imitation of Chinese celadon. The glass bangles show great variety of colouring and are often decorated with 'jewels' in relief on a raised keel (see Kumb. A. 52, 54; Pl. X). No structural remains whatever could be traced.

At a second and smaller debris area to which we were conducted about 3 miles away to the south-west, the same type of glazed pottery fragments was found, besides plenty of decorated glass bangles, small glass beads as seen in the specimens Kumb. B. 25-9 (Pl. X), and relief-ornamented unglazed pottery. The fragment of a moulded glass vessel, decorated with a raised ogee scheme, Kumb. B. 18 (Pl. X), deserves notice.

On the morning of January 19th a march of some 9 miles to the west, skirting the foot of rocky spurs which descend northward from a bold hill chain, brought us to the mouth of the Gīti valley. Owing to subterraneous drainage indicated by the presence of a few wells this valley holds a certain amount of scrubby jungle. Where it debouches north-eastwards there rises a precipitous ridge of sandstone. This forms the extremity of a hill chain trending in an approximately west to east direction. On the top the ridge bears the ruins of a remarkable hill stronghold as shown in Plan 8. It is known by the name of Qalāt-i-Jamshīd, the 'Castle of Jamshīd', the first of the legendary kings of ancient Īrān. At the northern edge of the fortified summit unscalable wall-like cliffs fall sheer down to a wide torrent bed, as seen in the photograph, Fig. 27. The crest rises above the level of this bed from 252 feet at the eastern, to 393 feet at the western end. From the south the ascent to the crest leads over a succession of tilted terraces separated by undercut ledges of calcareous sandstone.

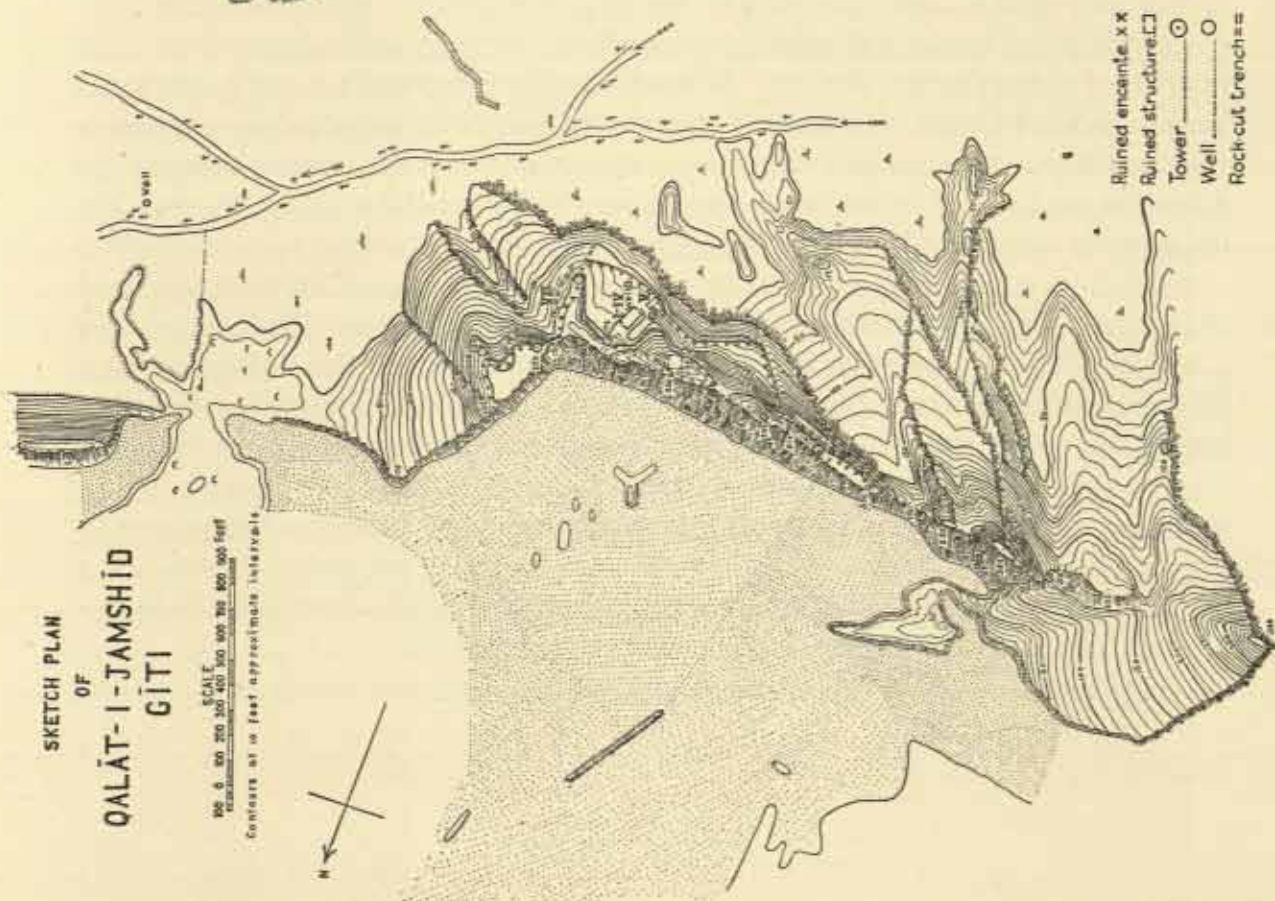
The top of the ridge is divided into two unequal parts by a narrow dip near the eastern end. This dip or ravine is closed for a stretch of about 100 feet by a wall built with sun-dried bricks, 10 inches square and 3 inches thick, and rising at its eastern end to 17 feet in height. Beyond the gap the top of the ridge

¹ Cf. Mr. Hobson's 'Notes on Ceramic Specimens' in Appendix D, *Innermost Asia*, ii. p. 1015; also *Tour in Gedrosia*, p. 131. See also his note in Appendix A below.

SKETCH PLAN
OF

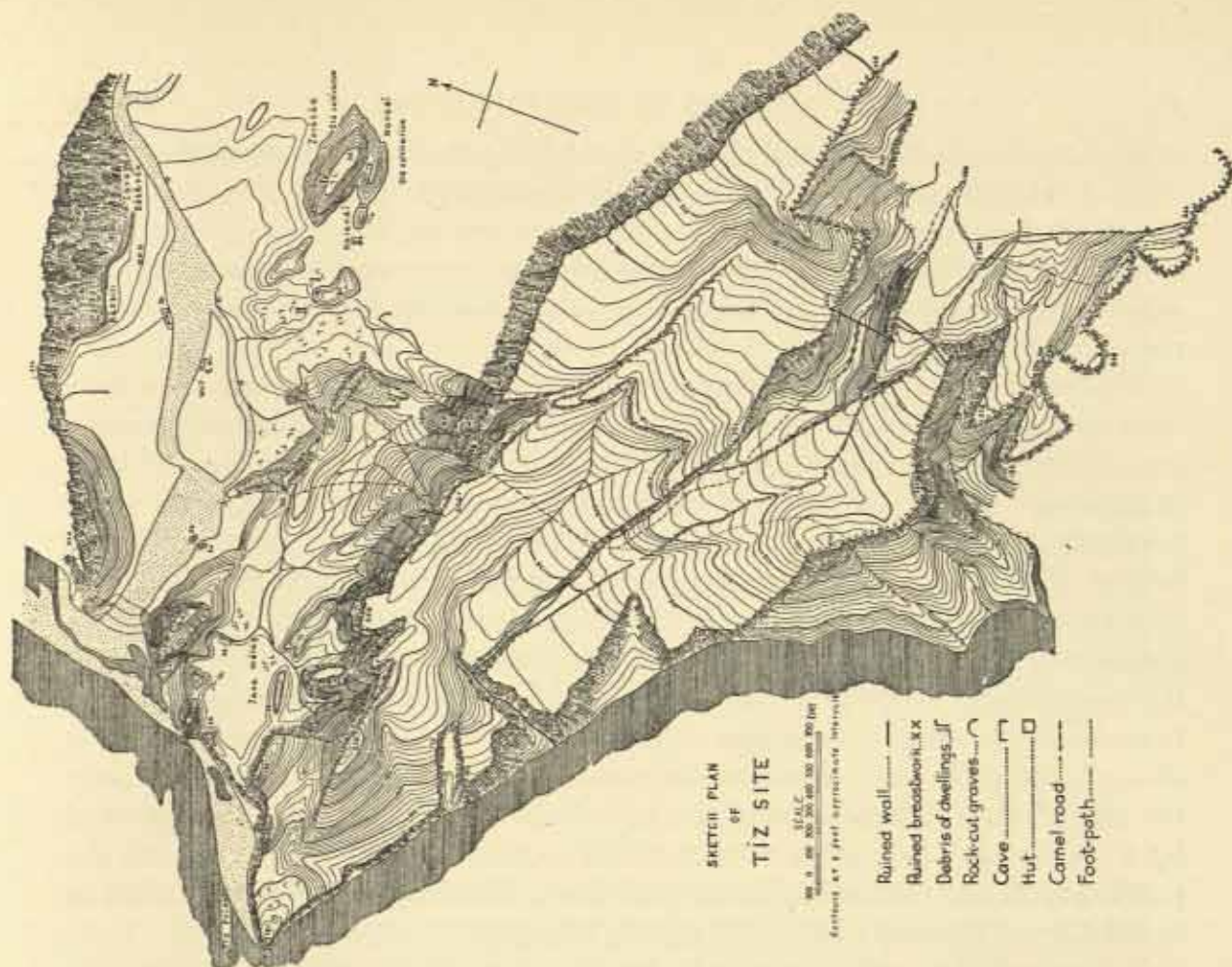
QALĀT-I-JAMSHĪD
GĪTĪ

SCALE
0 100 200 300 400 500 600 700 800 900 feet
Contours at 10 foot approximate intervals



Ruined encampment x x
Ruined structure □
Tower ○
Well ○
Rock-cut trench =

PLAN 8



SKETCH PLAN
OF
TIZ SITE

SCALE
0 100 200 300 400 500 600 700 800 900 feet
Contours at 10 foot approximate intervals

Ruined wall —
Ruined brickwork x x
Debris of dwellings J
Rock-cut graves —
Cave —
Hut —
Camel road —
Foot-path —

PLAN 9

widens eastwards into a small plateau about 100 yards long and 50 yards across. This is defended on the south and east by much-decayed walls now reduced to the state of *sangars*, or stone-heaps, and by a tower built with sun-dried bricks. Little broken pottery is to be found on this eastern portion of the fortified area, which probably was not used for regular occupation but may have served as an outwork.

To the west of the gap the major portion of the defended area stretches away for a direct distance of about 470 yards. It comprises along the crest of the ridge two small flat-topped knolls at heights of about 280 and 290 feet. Farther west it runs out into a very narrow bluff which ascends to 350 feet, with rocks overhanging in places. On the south the defensive line of wall descends from a height of about 150 feet near the gap to a level of about 100 feet, and then keeps for some distance just above this along a precipitous ledge of rock which serves as a natural wall. Thus there is here enclosed an area which, owing to the easy slope of its terraces, allowed space for some larger structures (marked I-IV in Plan). Within this area there are found also two circular wells cut through the solid rock. In order to protect this lower ground more effectively the line of wall which descends east of it from the gap has been strengthened by a massive circular tower at the end of a small spur, and by a trench cut parallel to it into the rock of the slope below. A similar but shorter trench is found also to the east of the wall closing the gap.

The top of the knoll rising above the large brick-built structures bears completely decayed remains of what may have been a kind of central keep built with undressed slabs of stone (Fig. 28). It is adjoined by two small towers constructed with sun-dried bricks. This knoll appears to have been defended by a separate wall and to have served as a citadel. On either side of it the narrow crest of the ridge bears plenty of debris, marking the position of small dwellings, the roughly built stone walls of which have crumbled away.

On January 20th trial excavations were made in the mound of badly decayed brickwork, which marks the principal residence of the site. The mound has a length of about 67 feet and an average width of about 46 feet. Its maximum height is about 20 feet. Owing to far-advanced decomposition of the sun-dried brickwork and to erosion, no structural features could be recognized. But the numerous deep hollows to be seen from the top suggest that they may be due to drainage having cut its way down into what may have been vaulted rooms in the substructure. This was certainly the case at the great palace-like ruin on the Kōh-i-Khwāja, in Sīstān, where I had observed similar deep cavities in the brick-built structures flanking the central court.²

² See *Innermost Asia*, ii. p. 923, fig. 475.

Cuttings made into the lower portion of the mound at three different places (I-III) disclosed only solid masonry of what may be assumed to have formed part of the substructure for quarters higher up. It is from these that the potsherds found along the decomposed mass of sun-dried brickwork below are likely to have been washed down. Remains of glazed pottery and of glass vessels turned up with particular frequency at the cutting III made at the north-eastern end of the mound. There, under the closely adjoining rock face, some refuse had evidently accumulated. The same observation applies to the finds of ceramic ware made when clearing a mass of clay debris, IV, showing signs of burning, which lay between the south-western end of the mound and the ruined structure below it, V. Two cavities in the latter, indicating what seemed to have been small rooms, were partially cleared without any finds being made.

More useful results attended the clearing of the rock-cut trench, VIII, which, as previously noted, extends along the slope for some 200 feet from the western end of the wall closing the gap. Though completely filled with earth and rock debris the straight line of the trench was easily recognized by me when looking down from the crest of the ridge. The width of the trench at the top was from 7 to 8 feet; its depth on the average 6 to 7 feet. Pieces of pottery, both glazed and relief-decorated, together with plain ware and fragments of glass, turned up in plenty at depths of 1 to 3 feet from the surface. The specimens of ceramic ware recovered here agree so closely with the pottery found elsewhere at the site, whether on the surface or otherwise, that their types may all be conveniently described here together.

Among these types the most characteristic and best represented is that of the glazed pottery, which has its decoration, all in line, incised through a light slip and hence shows dark under the transparent glaze. Numerous specimens of this ware are reproduced in Pl. IV. As seen in the pieces of the large dish, Jam. VIII. 169, and in fragments like VIII. 258, 276, 277; IV. 155, and others, the designs comprise floral shapes, combined with arabesques and often with freely treated Kufic inscriptions on the rims. The designs are almost invariably shown on a hachured ground. The glaze varies from pale straw to yellow, brown or shades of green, often with splashes showing a mixture of these colours or of purple (manganese) added. Some glazed fragments, like surf. 23 with its 'pearl border', show a different treatment. Painted pottery, without glaze, is rare.

Relief-decorated ware is well represented by the large jar, VIII. 257 (Pl. V), cast in two portions from separate moulds and joined before firing. VIII. 202 (Pl. V), part of the handle of a large jar, is decorated with a wriggling snake

in high relief. Other interesting pieces reproduced in Pl. V are the massive loop handle iv. 154, and the moulded parts from walls of vessels, iv. 165, 166, showing lines of raised 'pearls', derived from Sasanian art. viii. 204 is the fragment of a mould for producing this kind of ware. Three small pieces of porcelainous ware, surf. 32, 67, 78, with a crackled white glaze are probably of Chinese import. Fragments of glass vessels were picked up in numbers. Among the few glass bangles and beads, the bangle, surf. 85 (Pl. X), deserves mention for its elaborate and well-finished polychrome decoration. In the trench viii were unearthed also an iron javelin head, triangular in section, and a copper coin, much corroded and not yet identified.

The uniformity of the glazed pottery found everywhere at the site, with its incised ornamentation and Kufic inscriptions, leaves no doubt about the stronghold having been occupied in early Muhammadan times. The style of this glazed ware is considered by Mr. R. L. Hobson to be peculiar to Persian pottery of the ninth to tenth century.³ In the absence of any objects pointing to earlier occupation of the ridge it seems safe to assume that the defences of the Qalāt-i-Jamshīd date from the same period. But it ought to be noted that on a low gravel terrace near the eastern foot of the ridge where our tents were pitched I traced some small cairns marked merely by stone heaps. In two of them which were opened, we found some fragments of human bones, also a piece from a clay bangle. These cairns prove that there existed a settlement in the Gīti valley probably long before the 'Castle of Jamshīd' was built.

On the morning of January 21st we started for the coast at Chāhbār, where arrangements were to be made through the local military governor for our move inland. The first march took us to the south-west up the Gīti valley, which grew more and more bare as we approached the water-shed on the southernmost of the barren hill ranges that gird Makrān near the coast. The descent led down a troublesome narrow gorge winding away to the south-east. Then a wide torrent bed brought us, after a total march of some 18 miles, to the huts of Damba-dap, where a pool of rain-water allowed us to camp. On the following day we reached the small port of Chāhbār, after having covered some 25 miles. The route led mainly across a bare plain, without water at the time, until a low sandstone chain skirting the sea coast was struck at the well of Tizkufān. Chāhbār, with its station of what until recently was the Indo-European Telegraph line and its fortnightly mail steamer from Karachi, was to serve for the next two and a half months as our link with the outer world.

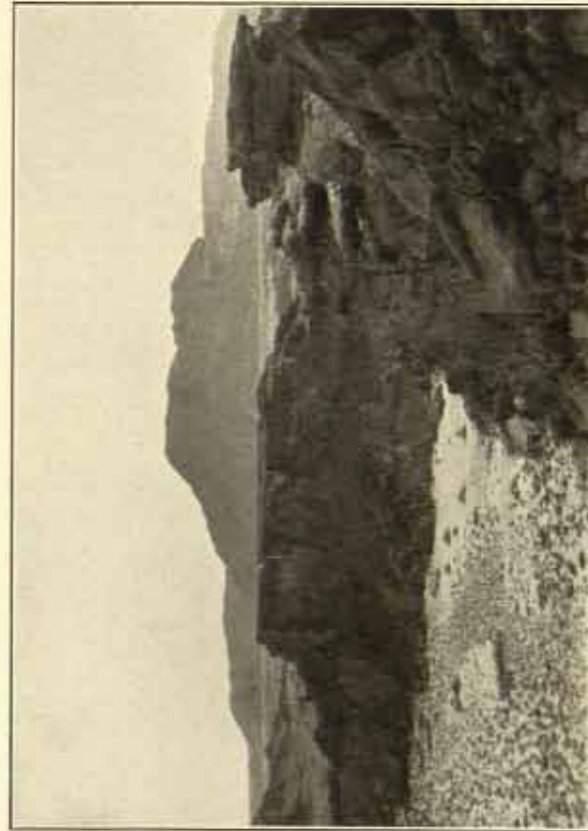
³ Cf. below, pp. 244 sq.



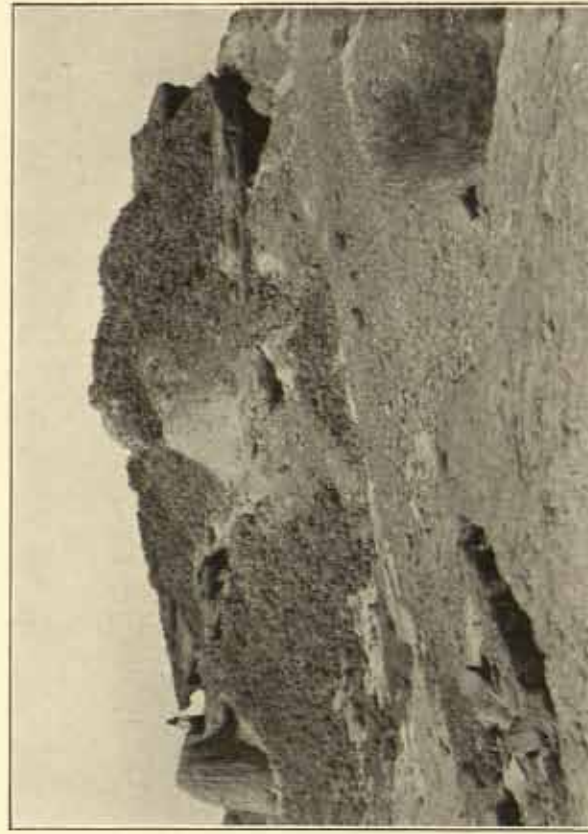
25. MOUTH OF TIZ VALLEY, SEEN FROM SEA
Fort of Geh Khān crowns hill on left



26. REMAINS OF RUINED STRUCTURE ABOVE ZERĀBĀD, TIZ



27. CLIFFS ON N. FACE OF HILL STRONGHOLD OF QALĀT-I-JAMSHĪD, GĪTĪ



28. REMAINS OF RUINED KEEP ON RIDGE OF QALĀT-I-JAMSHĪD

SECTION III—THE OLD PORT OF TĪZ

Chāhbār, situated at the entrance of the wide but shallow Chāhbār bay, is a small port with a population of about 2,000, serving what scanty trade there is from the valleys in the eastern portion of Persian Makrān. Its anchorage, poorly protected as it is, appears to be considered better than any other along the arid and desolate coast of the Ikhthyophagoi as far as it lies within the Persian border. No remains of early occupation are to be seen at Chāhbār, but such had been reported at Tīz, a small village and harbour, some 5 miles farther on the east coast of the bay.¹ So the first day of our brief halt at Chāhbār was used for a preliminary visit to Tīz, paid by boat in the company of the local governor, a genial elderly officer from Tabrīz who did not hide his dismay at having been recently exiled to this barren land. The rapid inspection we made of the Tīz valley after landing under the picturesque cliffs which line the shore near its narrow entrance (Fig. 25), showed that the site offered sufficient interest for a closer survey.

So after another day at Chāhbār spent in making necessary arrangements, including the purchase of Persian silver money unobtainable anywhere before, we set out for Tīz with camels on January 26th. The march of about 6 miles, short as it was, was not without some antiquarian interest. After we had skirted the sandy beach for about $1\frac{1}{2}$ miles and ascended a narrow nullah over steep ledges of sandstone, the track brought us to the southern edge of a rocky plateau. This proved to be defended by a massive, if coarsely built, wall stretching for a considerable distance both along the coast-line and also eastwards (see the sketch plan, Plan 9). It could be traced for about $1\frac{3}{4}$ miles along the top of the cliffs which overlook the coast at a height varying from about 260 to 300 feet. The line is broken only for short stretches where the rocky ledges of calcareous sandstone on which the wall was built have fallen away through erosion, or where the slopes below were too steep to need defence. The wall, about 8 feet wide at its foot, was built with rough pieces of the rock quarried *in situ* and laid in irregular courses without any plaster. On top it was provided with a parapet about 2 feet thick.

About 300 yards beyond the point where this defensive line was struck, the track turns away to the north and, descending in a wide rock-lined ravine for about three-quarters of a mile, then passes through another and better-preserved line of wall as marked in Plan 9. Here a wall of similar construction was found standing intact to a height of 8 feet for a distance of 77 yards. It ascends the

¹ For some account of Tīz, containing rather vague references to its antiquities, cf. Col. Hol-
dich's paper, 'Notes on Ancient and Medieval Makrān', *Geogr. Journal*, 1896, April, p. 395 sq.

steep slope to the north in a less well-preserved condition. From the point marked with the height of 324 feet its eastward continuation was subsequently traced by the Surveyor up to a point where it ends on the edge of a very precipitous rock face overlooking the Tīz valley. Similarly he was able to trace the connexion of this wall line southward from the ravine to where near the 320 feet mark it abuts on the previously noted defensive line near the coast. As the parapet of the wall passed in the ravine faces east it is clear that this wall represents a secondary fortified line intended, perhaps, to reduce the total length of the defences to be watched and manned.

That these lines of wall were meant to ward off an attack on Tīz from the side of Chāhbār is evident from their position. It is equally certain that so extensive a system of defence could not have been planned without a comparatively large population such as would be needed to construct and man it. That this was available in Tīz at a certain medieval period is proved by the extent of the ground over which the remains to be described presently were traced. No local tradition exists as to the construction of these fortifications. Nor could I learn anything about the Tīz valley having been protected in other directions by similar defences. The very narrow entrance to it from the sea-shore (Fig. 25) provided adequate protection on that side, and the very broken nature of the hills both to the north and east may have rendered attack from those directions unlikely.

The track to Tīz, beyond the point where the wall in the ravine is passed, runs for about a mile along a rocky plateau. From here much-decayed remains of stone-built dwellings could be sighted on the top of the precipitous headland marked as Tīz Point on the map. From the edge of the plateau the track descends along steep cliffs into the bottom of the Tīz valley, where our camp was pitched near a tiny plantation with a couple of Banyan trees. Tīz boasts of a few more small clumps of trees and a limited amount of scrub. It also has some wells of fairly good water in the torrent bed which descends from the east. No wonder that to the traveller along this desolate coast as well as to the few officials and traders exiled to Chāhbār the small village of Tīz presents itself as a veritable oasis.

The valley of Tīz debouches towards the sea through a short narrow defile which, where it adjoins the shore of the bay, measures only some 120 yards across. Above this defile there rises on the south a small hill with steep slopes which completely commands both the foreshore and the defile (Fig. 25). Together with the precipitous head of the rugged hill chain, enclosing the valley on the north and rising to about 300 feet, it effectively guards the approach to the valley from the side of the sea. The hill to the south now bears a

conspicuous half-ruined fort built in the third quarter of the last century by a Balūch chief of Geh who claimed authority over the neighbouring portion of Persian Makrān. A small plateau known as Jasa-mētag, which adjoins the hill on the south, is protected by cliffs which form a natural wall rising above the narrow foreshore. Small mounds of rough stone-built dwellings and pottery debris, including glazed ware manifestly of Muhammadan times, could be traced over a considerable portion of the plateau and on some small ridges close by. On one of these over which the track from Chāhbār descends I had noticed on our first arrival rows of oblong cavities cut into the bare rock surface, obviously graves, all orientated in the orthodox Muslim fashion.

For a distance of about a mile from Jasa-mētag, the ground which stretches from east to west along the torrent bed and the narrow strip of cultivation adjoining it bears similar marks of former occupation. That this dated principally, if not wholly, from Muhammadan times was shown by the extensive graveyards found in several places where the rocky layer of calcareous sandstone crops out with a gently tilted bare surface. The graves covering these spaces in regular closely serried rows are invariably alined from north to south in accordance with Muhammadan religious practice. The selection of such spaces as burial grounds was evidently due to the fact that their bare rocky soil and inclined surface precluded their use either for building or for cultivation. Moreover, excavation in rock comparatively easy to cut provided protection for the resting-places of the dead which otherwise would have had to be secured, in obedience to Muslim custom, by lining the grave with masonry or timber.

At first it was somewhat puzzling to find that in a considerable number of graves, either laid bare by the partial crumbling away of the rock ledge which they adjoined or else affected by erosion, what seemed the bottom of the grave was exposed at a depth of only 2 or 3 feet. But the explanation was soon furnished by the systematic clearing of more than a dozen graves at the burial ground marked *I* in the sketch plan (Plan 9), measuring about 318 yards from north-west to south-east and 90 yards across. The rock shelf exposed did not mark the bottom of the grave. A narrow excavation descended by its side 3 or 4 feet deeper and was adjoined on the opposite side by a kind of low niche, allowing just adequate space for the laying out of the body. This arrangement facilitated also the closing of the grave proper by means of large stone slabs placed over it slantwise, their ends resting on the raised shelf. By this means the available space could also be utilized with greater economy. I may add that exactly the same arrangement was to be seen at the far more extensive rock-hewn graveyards which stretch all over the hill-sides behind Tāhirī, the medieval Muhammadan port of Sīrāf, visited by me on my tour of 1932-3 along the

Persian Gulf.² What scanty potsherds were found in the earth with which the top portion of these graves of Tīz was originally covered in, were just of the same type as found on the surface of the adjacent debris area.

The clearing of this area, marked *II*, brought to light a complex of ten small rooms, none measuring more than about 10 by 8 feet. Their badly decayed walls were built with rubble set in earth and nowhere stood more than 4 feet above the ground. The finds, apart from some large pots of coarse plain fabric, comprised plentiful fragments of glazed and relief-decorated pottery as well as some of painted ware. As their types agree closely with those of the ceramic remains found elsewhere at Tīz, their characteristics may conveniently be described together farther on. That most, if not all, of this pottery was produced locally was at once made clear by finds of small three-limbed stands, 'spurs' or 'crowsfeet', used for supporting glazed vessels in kilns, and of pottery bars and handles (Tīz. II. ii. 13; iii. 41; vi. 85, &c.) used for a similar purpose during firing. All these show patches of glaze deposited from the objects with which they had been in contact. There were indications of glazing operations having been carried on within the rooms in small kilns. Some finds of broken glass, a potter's mould, II. vi. 84, and a small bronze disk which may be a coin, with a suspension loop, II. x. 131 (Pl. X), prove these quarters to have been inhabited. Among a number of very small coins found here some are considered by Mr. John Allan to be Parthian of the first century B.C. Others appear to belong to Muhammadan times.

Pottery debris was particularly abundant on a low mound, *III*, situated about 300 yards to the south-east of the previously mentioned graveyard and appropriately known to the villagers as *Kalandī*, the 'place of pottery'. A trench 6 feet in width was carried through it for some 40 yards. Cut to a depth of 5 feet, it revealed plenty of broken pottery, mostly glazed, mixed throughout with layers of burnt earth, charcoal fragments, and ashes. The spot must have been used for the production of local ceramic ware during some length of time. It deserves, therefore, to be mentioned that almost all the glazed fragments found here show that mixture of brown, yellow, and green glaze, with incised floral ornaments below, which has been noted already as prevailing among the glazed ware of Qal'āt-i-Jamshīd. Specimens of this ware are shown in Plate IV. Another type of glazed ware shows bold graffiti inscriptions of Kufic letters cut through a slip and glazed with various tones of yellow and pale green. Plain green glazed pieces were rare, and blue glaze absent. Three-limbed 'crowsfeet' or 'spurs' and other pottery pieces used to support vessels in the process of glazing turned up by the dozens (see III. 145, 147; Pl. IV, V). Some plain white ware shows almost

² See below, pp. 207 sq.

porcellaneous fineness. Incised and relief-ornamented pieces like II. vi. 88 (Pl. V) and III. 178, 265 (Pl. IV), were found in considerable number and variety. Among miscellaneous small objects may be mentioned the terra-cotta head from an animal figurine, III. 168 (Pl. V), a large onyx bead, III. 193 (Pl. X), and a bronze finger-ring.

Close above Kalandī a small hillock rises to a height of about 100 feet, overlooking on the north the abandoned area of cultivation known as Zerābād. The northern slopes of the hillock, as well as its foot on that side and a lower ridge continuing its line to the north-west, are covered with low stone heaps marking ruined dwellings of modest size. On a small plateau near the crest the lines of the walls of a structure, IV, could still be made out. This was selected for excavation on January 29th, the last day I was able to spare for the site. The six rooms cleared were divided by fairly solid walls, about 2 feet thick, built with rough slabs of sandstone. The walls in a few of the rooms appeared to have been covered with hard plaster. Fragments of this found in room iii showed faint remains of patterns painted in black and blue tempera colours. In all the rooms there turned up fragments of glazed pottery, mostly of the type with incised ornamentation yielded by the kiln remains in II and III. But in addition to this there were found fragments of superior plain glazed pottery, including a piece of thin bluish crackled ware suggesting Chinese porcelain; also relief-decorated pieces of pottery cast in moulds. Small metal articles, such as the chain links IV. v. 454 (Pl. X), and the object IV. vi. 477; numerous small beads of stone and glass, and a piece of thin sheet gold suggested a higher standard of living for the occupants of these quarters. Two small copper coins found in room iii have been recognized by Mr. J. Allan as Parthian of the first century B.C.

The uniformity of the pottery types found over the whole of the site points to its occupation having been restricted to one period: that this falls within Muhammadan times is made certain by the numerous graveyards, the extent and regular lay-out of which indicate a fairly large and settled population. Mr. Hobson, when dealing in the initial portion of his Appendix A with the ceramic materials collected in the coastal area of Persian Makrān, has put into full light the definite chronological evidence afforded by the close agreement of most of the glazed ware found at Tīz with types of Samarra and Brahminābād pottery.³ The Samarra pottery belongs to the ninth century and that of Brahmanābād in Sind cannot be later than A.D. 1020. Hence the prevalence at Tīz of the identical types and the definite evidence of their having been produced on the spot conclusively proves the occupation of the site in the ninth to tenth century.

³ Cf. below, pp. 244 sq.

A characteristic feature of the glazed graffito pottery of Tīz, as illustrated in Pl. IV, is the great range of colouring in the glaze, varying in the same piece from pale straw and yellow to brown, green, pink, or crimson, always with a mottled and patchy appearance. Side by side with this style we find a somewhat different and bolder decoration of glazed pottery attested by pieces from Tīz III, like 186, 188 A, 196–201, 274, &c. (Pl. IV). In this the fine incised designs are replaced by broad strokes. Another type illustrated by III. 242 shows dots and bands painted on with a light coloured slip. The relief decoration of unpainted pottery, of which Pl. V shows a specimen in Tīz surf. 136, was mostly produced from moulds and, as finds of moulds (Tīz III. surf. 142; II. vi. 84) show, done locally. The rarity of pottery distinctly indicating Chinese origin suggests that the port of Tīz had ceased to be much frequented by maritime trade before the import of Chinese porcelain into Persia was fully developed in Mongol times. Stone beads of manifold material and shape are found plentifully over the whole site. A collection of them was acquired and awaits expert examination.

However this may be, it is clear that a place situated like Tīz far away from any considerable area of agricultural or industrial resources could not have supported the fairly large population which the remains examined indicate, had it not been for the advantages which its port offered for sea intercourse between the Persian Gulf and the coast of India and the Far East. The south-west monsoon must always have interposed a very serious obstacle to that intercourse during a considerable portion of the year. Tīz lying just to the west of that stretch of the Makrān coast which the monsoon strikes with full force, would offer then the last safe harbour for ships seeking India from the side of the Gulf. It would provide shelter also for shipping on the opposite course when held up from approach to the mouth of the Gulf by the violent winds which at other seasons often blow from the north-west and north. Hence it may well be believed that at a certain period in early medieval times Tīz was used as a port for convenient trade exchange between the south of Persia and India. The possibility of its having served as the port for some caravan traffic passing from Sīstān and Khorāsān to the sea through Bampūr should also not be ignored.

We have probably a classical mention of Tīz in Τεῖσα, a locality which Ptolemy's *Geography* places on the Gedrosian coast to the west of Κύζα and beyond the cape of Βαγεία.⁴ Nearchos's account of the voyage of Alexander's fleet, as reproduced in Arrian's *Indikê*, xxix. 1, also refers to the last two localities in the same order from east to west, and places the good harbour of Talmena (Τάλμενα) beyond Bageia. In view of the identical location in the two notices,

⁴ Cf. Ptolemy, *Geographia*, vi. viii.

both derived from Nearchos's account, the conjectural reading of Τεῖσα λιμένα for Τόλμενα λιμένα suggested by Tomaschek in Arrian's text appears to me very convincing.⁵

In view of this classical mention of the harbour of Tīz it seems doubly significant that in spite of a diligent search I failed to trace any remains indicating occupation of the site dating back to pre-Muhammadan times. This is in keeping with the fact that a similar absence of remains which might indicate settlements due to early trade intercourse by sea between the region of the Persian Gulf and India was observed by me on my journey of 1932-3 along the coast of the Gulf.⁶

No evidence of early occupation was found in the caves which I had occasion to examine at Tīz and to which brief reference still remains to be made. One of them, known as Bānsiti, is situated on the precipitous face of sandstone cliffs about 100 feet above the torrent bed and about 1,000 yards to the north-west of the valley entrance. It is roughly hemispherical in shape with a diameter of some 18 feet. It is said to be regularly visited by Hindus trading at Chāhbār, and a multitude of pilgrims' graffiti in Nāgarī and Lahndā scripts are to be seen on the plastered walls. A coarsely built platform within the cave, surmounted by a small cone, is supposed to mark the resting-place of a saint. Outside there once existed a similar small cave, of which the outer half has fallen away through the crumbling of the rock face. Here, too, plenty of graffiti are to be seen; one of them is dated in the Śaka year 1734 (A.D. 1812). About 40 yards to the east is another larger cave about 20 yards in diameter; this appears to be mainly natural, though traces of white plastering are to be seen on parts of the rock walls. On its eastern side there opens a rift in the rock leading down into what local belief takes to be an unfathomable depth. Some 300 yards farther to the east there opens a third cave, still larger and certainly natural, which serves as a shelter for sheep.

SECTION IV—THROUGH THE HILLS OF MAKRĀN

On January 30th we started from Tīz in order to make our way through the hill chains to the north towards the basin of Bampūr. The physical features of that great drainageless area raised some hope of my finding there remains of prehistoric civilizations which might link up with those I had been able to trace in the course of my former explorations in British Balūchistān and Makrān. It was necessary to press on in view of the fact that the climatic conditions of that drainageless basin, desertic in character and of comparatively low elevation,

⁵ Cf. Tomaschek, *Sitzungsberichte der K. Akademie der Wissenschaften, Wien*, 1890, cxxi. p. 34. Bageia and Kuiza cannot be definitely identified.

⁶ But see also below, pp. 236 sq., for another possible explanation.

would render it difficult, if not altogether impossible, to continue field work far into the spring. There was an additional, practical reason prompting an early start northward. News received from Chāhbār showed that a large military escort was coming from Rāmishk, the temporary head-quarters of the General Commanding, Balūchistān, to join me; and time might be saved by moving ahead to meet it. For the journey to Bampūr I proposed to follow the route passing the valleys of Qasrqand and Geh containing the principal settlements to be found in the hills which border the basin on the south.

The first march lay across a bare plain of clay, where only a few wretched huts of herdsmen were to be seen and some patches of abandoned cultivation. It brought us to Bandagāh, where a rain pool of muddy water allowed us to halt at the foot of the outermost hill range. Next day the utterly barren range was crossed, first into a belt of low and much-decayed sandstone hills and beyond this into an area where precarious cultivation is maintained in years of some rainfall by scattered small hamlets of mat-huts. The remains reported near Turkāni, where we halted, proved to consist of a few insignificant stone-heaps marking decayed rubble-built dwellings. There were also some low cairns or *dambs*, hard to distinguish from the heaps of decomposed rock which cover a small hill visited as a *ziārat*, about 3 miles to the north of the hamlet.

Since the camel transport brought from Tīz had absconded during the following night, it was a special relief when next day there arrived the large escort of eighty Persian Nizāmīs or regulars, all mounted on camels (Fig. 50). Their commander was 'Sultān' Āghā Husain Anṣārī, a pleasant and energetic officer from Tabrīz, whose readiness to facilitate our work and cheerfully to face any hardships incidental to rough travel I soon learned fully to appreciate. With him there came Sirdār Husain Khān of Geh (Fig. 52), whom the Persian Government, since the overthrow of the régime of Dōst Muḥammad Khān, the late semi-independent chief of Bampūr, had installed as the head of the Balūch tribes of Makrān. The Sirdār remained with us all the way to Jīruft, well beyond the area nominally in his charge, and in spite of his youth and other impediments made himself very useful in various practical ways. I soon had occasion to realize how great our difficulties about 'supply and transport', to say nothing about local guidance and labour, would have been in this but recently pacified region without the effective protection and help kindly provided by General Muḥammad Khān Nakshiwān under the orders of the Persian Government. I may record here at once also how glad I was to note the attention paid to the discipline and well-being of the men, all from Sīstān, constituting the escort, as well as the care which had been taken to provide them with a sufficiency of transport and food.

A day's rest had to be given to the escort, which since leaving Rāmishk had

done much hard marching. But on February 4th we were able to set out for Qasrqand. There is no need to give any detailed description of the four marches which brought us there. Whatever small corrections the details of topography in the Survey of India Sheets Nos. 31. B, C needed, have been fully recorded by the plane-table survey which Surveyor Muḥammad Ayūb Khān carried on under my supervision all through our journey from Chāhbār onwards. Its results are shown by Map Sheets I and II. A brief general account of the ground traversed will suffice. The route followed led up the wide valley of the Kājū river, which descends from the mountains above the valley of Qasrqand. Some 7 miles beyond Turkāni the last ground intermittently cultivated was left behind, and from there until nearing Qasrqand no permanent or even temporary habitation was met.

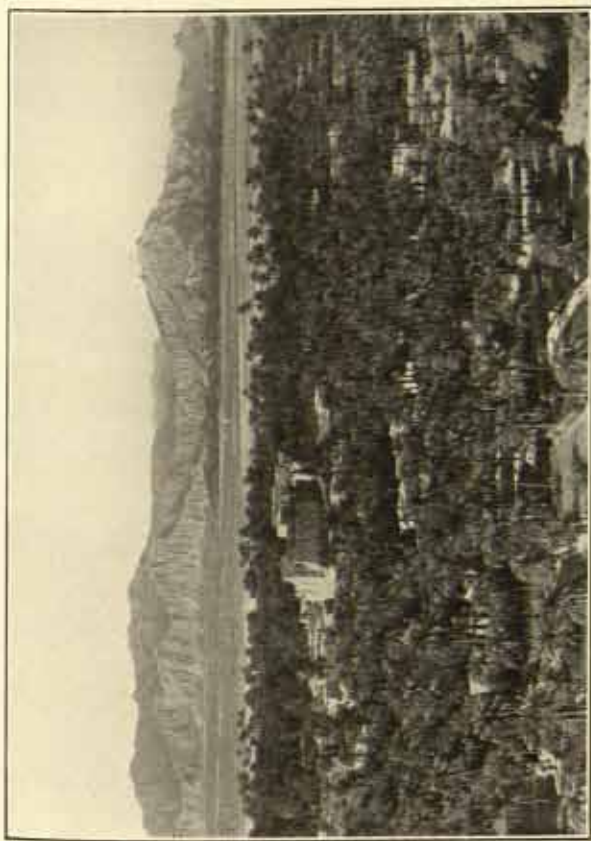
From our camp at Kolāhu, where the Kājū river-bed was left, a long march northward took us first up to the head of the Trādān valley and then across stony plateaux into the equally barren valley of the Rīgi Kaur, another tributary of the Kājū Kaur. By ascending this valley on February 6th from our camp at Balāsuk we reached the halting-place of Tallāra-rēg below the hill range of Bāghāband, rising to some 3,800 feet. Its drainage accounts for a series of springs, the first met since leaving the coast, and for some tree growth and less scanty grazing. On the following morning, after an easy ascent of 4 miles, the watershed was reached, at a height of about 2,000 feet. On moving down the open valley towards Qasrqand, we passed small groves of date-palms fed by springs, and after a march of about 9 miles emerged on the riverine flat of the Kājū Kaur, where the oasis of Qasrqand spreads among palm groves. On the way to where our camp was pitched near the central village we passed an extensive stretch of ground, known as *Damba-gāb*, where pottery debris and low stone-built embankments mark an area of former cultivation. It is locally believed to have been abandoned at a time not very distant, in consequence of a destructive flood in the torrent bed of Parsūk, which joins the Kājū Kaur south of the present oasis.

A two days' halt at Qasrqand, necessitated partly by regard for the celebration of the end of Ramaḍān, enabled me to acquaint myself with what scanty remains of former occupation could be traced within the oasis or its immediate vicinity, and with the conditions of cultivation prevailing at present. Cultivation here depends wholly on the water supply from the Kājū river, obtained either direct on the occurrence of rain floods, or more regularly by means of *kārēzes* or *qanāts*, underground canals tapping the subterraneous drainage derived from the river at points higher up the valley. The considerable proportion of fields left untilled for the last two years showed how much the oasis, with its population of about 1,800 souls, depends on the insecure rainfall of this region. Of the eleven *qanāts* counted, several were out of repair. The ruined fort, known as

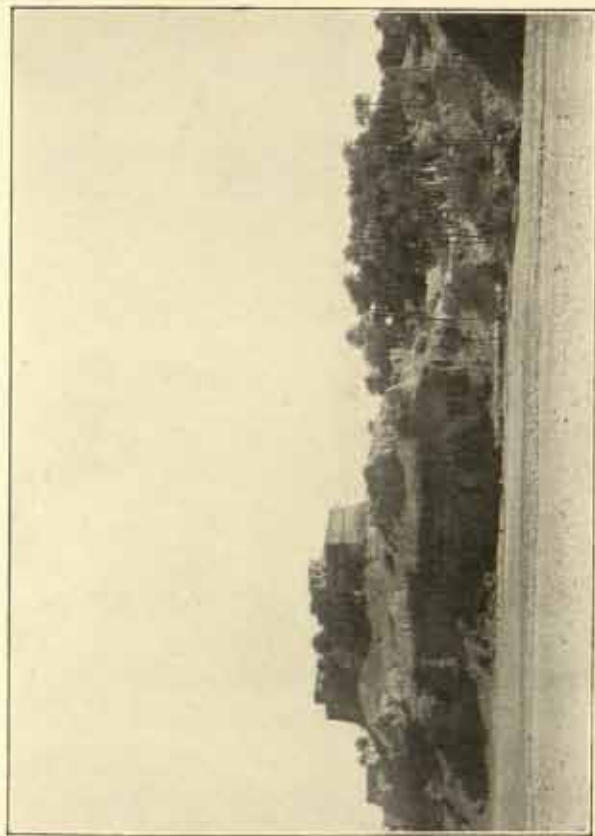
Qal'a-kōh, occupies the top of a steep rocky hillock rising about 250 feet above the area of palm-girt fields to the south of the fortified residence of the local chief, Sirdār Jān Muḥammad Khān (Fig. 29). The narrow crest of the hillock, only about 12 yards across, bears remains of roughly built stone walls for a length of about 60 yards. The scantiness of potsherds suggests that the small circumvallation was occupied only occasionally as a place of refuge.

The place of another small fort, called Qalātuk, and situated about a mile to the north-east of the main village, is marked by a mound some 20 yards in diameter and about 15 feet in height, covered with stone debris. Among the coarse pottery found on and around the mound, the rare painted fragments showed patterns of the simplest kind painted dark red on a light buff or black ground. Proceeding a short distance farther in the same direction, beyond the eastern edge of the hamlet of Bōghān, there was found a stretch of waste ground about a quarter of a mile across covered with debris from rough stone walls and coarse potsherds of the same type. On slightly raised ground I found remains of Muhammadan graves probably contemporary with the occupation of this area. It appears to have been irrigated from a small canal, of which traces could be followed to where the river emerges from the narrow valley leading down from Chāmp.

The most direct route towards Bampūr would have led us up this valley, but there were two reasons which decided me against following it. On the one hand there was the risk of being held up in it by floods if rain, not unknown at this season, fell and rendered the river impassable for days in any of its numerous defiles. On the other hand, I wished to make sure by a visit to Geh that no early remains in this, the only other oasis of some size to the west before reaching the Bāshakard territory, should escape me. Our journey resumed on February 10th towards Geh took us on the first march for some 15 miles down by the Kājū river. At the hamlet of Hait, which was first passed at a bend of the river, ample irrigation is provided by a *kārēz* said to be very old and to have its head some 4 miles away at the Damba-gāh site near Qasrqand. Then crossing to the left bank of the wide river-bed I found above the village of Būg an extensive stretch of ground known as *Damba-gub*, covered with the debris of roughly built stone walls and abundant pottery. Most of the latter was plain coarse ware. Medieval occupation was proved by glazed potsherds, including some with graffito design under green glaze, and others with brown scroll patterns over yellow ground, also a fragment of Chinese blue and white porcelain. A fragment of lustred ware is ascribed by Mr. Hobson to a type of the tenth to twelfth century. The area stretching for about half a mile from east to west lies well above the level of the ground now capable of irrigation from the river. More cultivated ground and



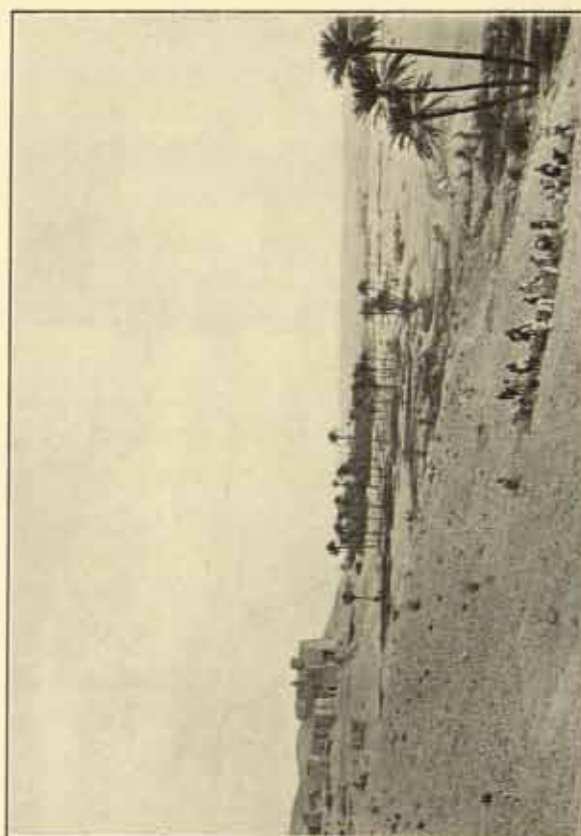
29. PART OF OASIS OF QASRQAND, SEEN FROM QAL'A-KÖH RIDGE



30. FORT OF GEH, SEEN FROM CHIHIL-DUKHTARÂN



31. FORT OF BAMPÜR, SEEN FROM NEAR GATEWAY



32. DIGGING AT PREHISTORIC BURIAL SITE BELOW FORT OF DĀMÍN

groves of date-palms were to be seen along the left bank of the river up to where it bends to the south. With the conspicuous peak of Aband (5,200 feet) rising in the north, the landscape was the most pleasing we had so far met in Persian Makrān.

From Gwarmābād, where we camped near some date-palms fed by a small spring, a march of some 25 miles, mainly westwards, brought us to the Geh river and the comparatively large oasis of the same name which it irrigates. Some groves of wild-growing *kabūr* trees prized for their hard wood, and a few springs in rocky hollows were passed before reaching the wide stony plateau from which the Kabjur Kaur, a torrent bed joining the Kājū river, gathers its drainage. Rugged rock walls confine the channel as the stream passes south through the fantastically serrated Shalmār hill chain. Where the watershed towards the drainage of the Geh river is crossed the track passes under a very steep rocky pinnacle known as Drangī. Legend tells of a hunter who was raised to its inaccessible needle-like peak by a wicked fairy, and unable to descend threw himself down the precipice and was killed. The track leading down from the watershed took us first past the fine spring of Tahar, which waters a large date-palm grove, and then across the wide torrent bed of the Zahāk-kaur to Pīr Pishak, the easternmost of the small villages which together form the oasis of Geh. After crossing the cultivated plateau above the junction of this bed with that of the Gungh Kaur to the west, we pitched camp near the village of Tumpī to the north of the Geh chief's fort.

Geh, with its ample cultivated ground watered by a series of *qanāts*, appears at one time to have been the chief place in Persian Makrān. It lies at the point where several convenient routes leading from the Bampūr basin to the coast are crossed by a lateral line of communication connecting Bāshakard in the west through Qasrqand, Pishīn, and Mānd with Kēj, the chief valley in British Makrān. This position is likely to have made Geh a place of some importance at all times, and even now its chief, Sirdār Ḥusain Khān, is recognized as the head of the Balūch population in Persian Makrān. But tribal disturbances following the death of his father, who up to 1916 had remained a practically independent ruler, have greatly reduced the prosperity of Geh, and the whole oasis, apart from outlying hamlets, can now count scarcely more than 500 homesteads, and those merely mat-huts.

The fort of the Geh Sirdārs rising on a natural ridge of clay and conglomerate towards the southern edge of the plateau looked imposing with its high walls (Fig. 30). But neither in its dilapidated interior nor on the ground outside was any evidence of antiquity to be seen. Nor did I find any at the smaller ruined fort, known as Kōl-qal'a, built on a lower ridge close to the south, and said to

have been abandoned a few generations ago. A fine perennial spring issues between the two forts. Older, perhaps, is a small circumvallation which I was shown on the top of the long stony ridge of Kurangī, about a mile to the east of Tumpī. This measures some 150 yards from north to south and about half that across. The much-decayed old walls of rough stone work had been repaired with still coarser masonry when a tribal rising occurred some eight years before my visit, and the old well within was then cleared. The coarse plain pottery found both within and outside affords no clue to an approximate dating; but it may be noted that traces of completely decayed stone structures are found over an extensive portion of the ridge to the south.

More interesting were the remains of the large Muhammadan burial-ground, known as *Chihil-dukhtarān*, the 'forty daughters', a name frequently applied in Persia to ruined sites. Its remains occupy a terrace rising some 40 feet above the western bank of the Gungh Kaur and situated approximately opposite to the Sirdār's fort. The area, covered with a multitude of graves and a number of small mounds marking completely collapsed sepulchral structures, extends for some 450 yards from north to south and more than 180 yards across. Many of the graves are marked by rows of carefully laid large pebbles, often also by low headstones. Three of the larger mounds, undoubtedly formed by the debris of sepulchral domes (*gumbad*), had been dug up. Within the foundation walls of a circular structure there was disclosed a vaulted tomb chamber, 13 feet 8 inches long and 10 feet 8 inches wide. The burnt bricks of the masonry measured 9 inches square with a thickness of $1\frac{1}{2}$ inches. At its northern end was a recess for a coffin, covered with large bricks set aslant. Here remains of a 'wooden box containing earth' were said to have been found. Some 16 yards to the north, the wall foundation of another domed tomb could be traced, indicating a diameter of approximately 19 feet. A hole in the centre marked the place where a sepulchral chamber had been dug into.

At a third tomb there survived the lowest courses of massive walls from a rotunda having an approximate diameter of 25 feet. Here the vaulted tomb chamber, built with rough stones set in hard plaster, was laid in an east to west direction. This direction is certainly opposed to the universally observed Muslim practice of laying the body with the head to the north and the feet to the south, but apparently in agreement with Jewish custom. We subsequently observed at least three more graves at Chihil-dukhtarān and a few at a smaller burial-ground situated a short distance farther south across a ravine, the alignment of which was either from east to west or from north-east to south-west. It appears hence probable that these cemeteries were used also for the interment of non-Muhammadans living at Geh—Jews, and perhaps also Christians. The

local belief that in such cases valuables might have been buried with the dead may account for the opening of the previously mentioned tomb structures.

All over the burial-ground of Chihil-dukhtarān fragments of glazed pottery could be picked up in plenty. Apart from fine glazed ware in shades of plain blue and green, there were pieces showing graffito designs under a green or yellow glaze (Geh. 58, 64, 66) closely resembling such decorated ware from Qal'a-i-Jamshīd and Tīz. Other glazed fragments with patterns in brown over a buff ground show a type of decoration which is represented among the medieval pottery found by me at Āwarān and Mīrī-but in Balūchistān,¹ and which appears to be related to Samarqand ware of the thirteenth to fourteenth century. Some fragments of porcellanous ware, decorated in blue over white (Geh. 24, 34), are probably of Chinese make or else Persian ware imitated from it. There were found also pieces of good enamelled tile work, including some with blue and lustre decoration which Mr. Hobson in Appendix A ascribes to the fourteenth century.^{1a} From the evidence of all these ceramic remains it may safely be concluded that burials continued here down to late medieval or even more recent times.

This account of old remains at Geh may be completed by brief references to a few places visited to the south of the plateau bearing the wheat-fields and date-palm groves of the oasis. About a quarter of a mile below the junction of the two *kaurs* a terrace above the left bank of the river-bed, known as *Aspimangal*, bears remains of an enclosing wall built with rubble, and within it low debris heaps from decayed structures. The scanty pottery found supplies no clue to approximate dating. On the opposite bank the small spur of Sohrēn-dūg, the 'red hillock', shows similar stone heaps from decayed dwellings. Above it the crest of the isolated hillock of Chār-tākān is crowned with the roughly built stone walls of what obviously was a small defensive post. Here, too, no chronological data could be obtained from the scanty potsherds.

It had been my wish to make my way to Bampūr by the most direct route leading across the range in the north past Hichān and Sarhao. But Sultān Āghā Husain Anṣārī, the obliging commandant of our escort, apprehended serious risks of attack, if we followed this route, from the wild Balūch nomads of Lāshār occupying those hills. He dwelt so persistently on his responsibility in the event of an encounter with the tribesmen, who had so far resisted all revenue demands of the Persian authorities, that in the end I felt obliged to agree to the move by the more devious route, leading first to Bint and thence up its river to Fanūch, by which the flank of the Lāshār tract would be turned. It was easier for me to accept the detour since previous information suggested that both Bint and Fanūch had at one time been possessed of some local resources.

¹ Cf. *Tour in Gedrosia*, pp. 131, 171, Pl. XXXIII.

^{1a} See below, p. 246.

Between the 15th and 17th of February, on our journey of some 50 miles westwards from Geh to Bint, we passed no inhabited place. Halts were made near small streams at the two intermediate stages of Mulla-kalag and Chāh-i-'Alī. There were also patches of scrub and tamarisk jungle to be found on the peneplains which descend from the Lāshār range in the north and across which the tracks passed. Far off at the foot of the as yet unsurveyed Lāshār hills, rising apparently to 6,000 feet and more, groves of date-palms could be sighted, marking the presence of springs or small streams.

Bint, situated in a small fertile plain on the right bank of the river bearing its name, is a large village and, like Geh, the meeting-point of several routes leading to the coast as well as to parts of the Bampūr basin. Down to recent times its large fort was held by quasi-independent chiefs. But Bint had apparently suffered much from the disturbed conditions preceding the re-establishment of Persian authority, and the advent of our large escort had sufficed to cause the bulk of its population to abscond. I could learn nothing about old remains in its vicinity.

A march of 26 miles led northwards up the gradually narrowing valley to a winding gorge in which the headwaters of the Bint river have cut their way through the Lāshār range, and brought us on February 18th to Fanūch. The few hamlets passed on the first quarter of the march were found deserted for the same reason as at Bint. At Shātāp a side valley joins in from the north-east and at its mouth affords space for some scrubby grazing. Beyond this the track passes along the bottom of a narrow ravine flanked by steep faces of crumbling rock, largely limestone. The path keeps crossing and recrossing the stream until, at a point about 3 miles from Fanūch, both track and stream disappear under a confused mass of huge limestone blocks, thrown down from the slopes above as if by an earthquake. It took much trouble and time before all our camels were safely brought across this great natural barricade, which a small number of determined men might turn into an impassable *darband*. For another mile the gorge continued very difficult, encumbered as it is with rocks that have fallen from the towering Kōh-i-Fanūch (5,746 feet), until we emerged in view of the date groves of the oasis.

The cluster of small villages constituting Fanūch, and counting altogether probably less than 200 households, occupies the lower portion of a peneplain extending along the left bank of the Aiminī (or Haiminī) stream to the point where it is joined by the Rāmpk Kaur from the north-west. The soil of this plateau, some 2 miles in length, is very fertile and easily irrigated from the Aimini stream by canals constructed mainly underground. That this favourably situated ground was occupied from an early period became evident from the

first day of our stay. The 'stone gate' to which keen guides first took us at a point about 2 miles to the east of the lower end of the oasis proved, indeed, only a chalky rock with a natural fissure closed by a large block, behind which local imagination pictured treasure. But when I was subsequently guided across the stony peneplain to the debris area, here also known by the name of the 'Forty Daughters', situated about a mile to the north-east of the uppermost point of the oasis, I soon recognized remains of a distinctly ancient site. It lies by the left bank of an affluent of the Aiminī stream which descends from an eastern portion of the Lāshār range, and less than a mile farther up supplies irrigation for the fields and date-palms of the outlying hamlet of Magūn.

The debris area, covered with stones from completely decayed walls of dwellings and plentiful potsherds, stretches for about half a mile from north-east to south-west with a width scarcely less. Near the southern end there rises to a height of some 80 feet a rocky hillock, the slopes and top of which are covered by the much-decayed remains of stone-built walls of ruined dwellings. The narrow crest, about 110 yards long, is crowned by modern *sangars*. These stone breastworks were erected during a time when fighting was carried on with Dōst Muḥammad Khān, the late ruler of Bampūr. The pottery comprises a fair proportion of painted ware, decorated with designs in black, pink, and buff, closely recalling patterns found on ware of British Balūchistān sites which I have provisionally classed as 'late prehistoric'.² The specimens, Fan. q. 57, 64, 66, 67, 76, 85, 89, reproduced in Pl. XXV, will help to illustrate the resemblance. This is further strengthened by the association of this painted ware with plenty of 'ribbed' and relief-decorated pieces, such as Fan. q. 1, 4, 5, 15, and 7, 12, respectively (Pl. XXV). Among the plain ware fine fragments showing a dark terra-cotta slip, well polished, also deserve notice.³ On the other hand, very few fragments of glazed ware, including some of ninth- and tenth-century types, could be found, and these, too, mainly on the fortified hillock. The occasional occupation of this portion of the site, owing to its advantages for defence, is likely to have continued down to late times.

A site of familiar character was found at a place known by the significant name of *Dambān*, and situated on the left bank of the Rāmpk stream, about 4 miles west-north-west of Fanūch. There a succession of roughly constructed cairns extends close to the edge of a terrace overlooking the bed of the small stream and bordered on the other side by the foot of a low rocky hill chain. I

² Cf. *N. Balūchistān Tour*, pp. 8 sqq., 18 sqq., Pls. I-III.

³ The perforated fragment Fan. q. 13 shown in Pl. XXV is a lug, detached from a vessel. Fan.

q. 10 reproduced *ibid.* is a roughly cut quadrangular piece of terra-cotta, deeply scored crosswise on both sides and perhaps used as a 'sinker'.

counted altogether some 120 cairns, but may have overlooked a few more. The contents of the twenty-two cairns which were opened were in close agreement with those found at Damba-kōh. Practically in all the cairns there were bone fragments, mostly small, associated with pottery vessels such as shown in Pl. III or with potsherds. Fan. D. 25, 26 (Pl. XXXII) are specimens of large bowls found one inside the other. Of two saucers, Fan. D. 10, 11 (Pl. XXV), with a hole at the bottom, one was filled with remains of foodstuffs, including small bones, apparently of a bird. D. 24 (Pls. III, XXXII) is a large bowl raised on a stem with spreading base. The flat flask D. 23 (Pls. III, XXXII), with its spout on one side and four lugs pierced for the passage of a suspension cord, corresponds exactly to others of that shape first found at Jīwanrī.⁴ Some of the pottery fragments showed red and dark brown slip. Among other objects may be mentioned the glass style D. 21 (Pl. X); metal (silver?) ornaments of twisted wire, D. 17; portion of a folded silver plaque which might have belonged to a buckle. The use of two perforated small scoop-like objects of shell, D. 12, 13, is uncertain.

While the opening of these *damb*s proceeded under Dr. Fábri's direction, I ascended the valley in the direction of the village of Rāmpk, to look for an 'old fort' reported by our guide, an intelligent relative to the local chief. The remains found, after prolonged search for a distance of about 4 miles amidst very broken hilly country, consisted of some thirty-five scattered cairns and traces of rough walls on narrow rocky hillocks.

But our three days' halt at Fanūch was rewarded by some finds of much greater interest, affording a welcome auspice of what might be hoped for on the Bampūr side. On my return from Dambān, Sultān Āghā Ḥusain Anṣārī, ever interested in our work, produced to my pleasant surprise two pottery objects which had been presented to him by the local Qāḍī, a fine old man of some education, as having been found by villagers in the previous year when clearing a *qanāt* or *kārēz*. In the tall upright beaker, Fan. 014 (Pls. VI, XXXII), and in a small jar, Fan. 011, painted with a hachured black pattern over a grey body, I could at a glance recognize specimens of prehistoric ware closely resembling ceramic articles recovered by me from chalcolithic sites like Shāhī-tump in Makrān.⁵ The Qāḍī was ready enough to guide us to the spot where these finds were said to have been made.

On reaching the *qanāt* indicated, close to the northern edge of the cultivated area, a villager who had been present at the time at once showed the find-spot in the steep bank of the cutting close to where the canal issues into the open.

⁴ See *Tour in Gedrosia*, Ji. 1. iv, Pl. V.

⁵ See, e.g., *Tour in Gedrosia*, Pl. XIII, Sh. T. iv. 1, 4.

Those two vessels and some others had been laid bare low down in a rift which rain had washed out in the high bank. The careful search I caused to be made along this bank failed to trace any other pottery. But before long a fragment of the same grey ware, with a hachured pattern painted in black, was discovered by one of the men within about 12 yards of the find-spot indicated in a hollow marking a shaft on a former alinement of the *qanāt*. Here were also recovered in quick succession three fragments, Fan. 015, of a large shallow bowl showing within, in the centre part of a hachured Svastika and on the inside of the rim, triangles exactly like the motifs common on bowls of funeral furniture at Shāhī-tump.⁶ Two more fragments of a small grey cup, decorated with triangles outside the rim, and part of a plain red jar with a very pronounced bulge, as common at Shāhī-tump and other chalcolithic sites, Fan. 1, 012, strikingly completed the evidence. Subsequently another tall beaker, Fan. 013 (Pl. VI), was found in the possession of one of the local cultivators, and purchased.

Owing to the depth of the alluvium under which these relics of a prehistoric culture had been originally found, systematic excavations would have claimed too much time, and a trench cut to the south of the hollow failed to reveal any potsherds. But the objects thus accidentally recovered at Fanūch sufficed to raise hopes that my expectation of coming upon remains of prehistoric occupation within the basin watered by the Bampūr river would prove justified, and supplied an additional reason to hasten northward.

⁶ See *ibid.* specimens in Pls. XV-XVII.

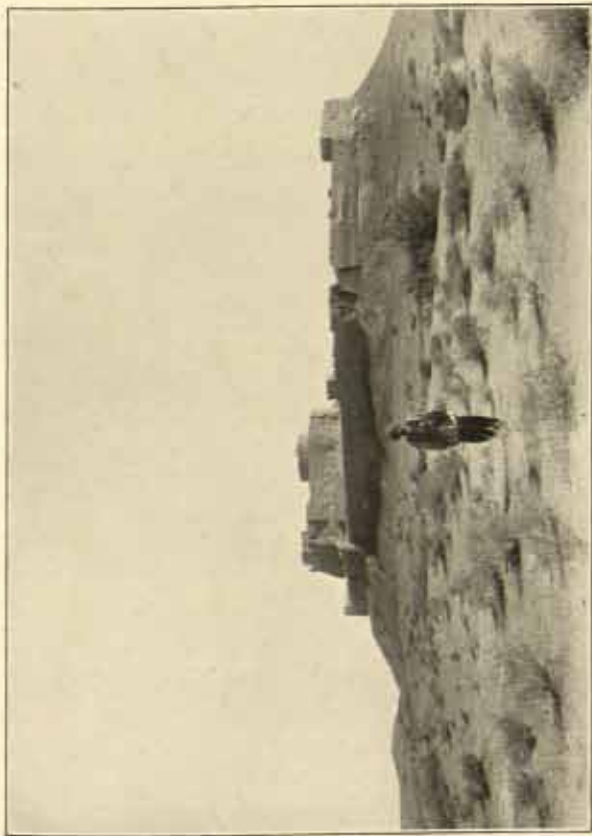
CHAPTER IV IN THE BAMPŪR BASIN

SECTION I—PREHISTORIC REMAINS OF BAMPŪR

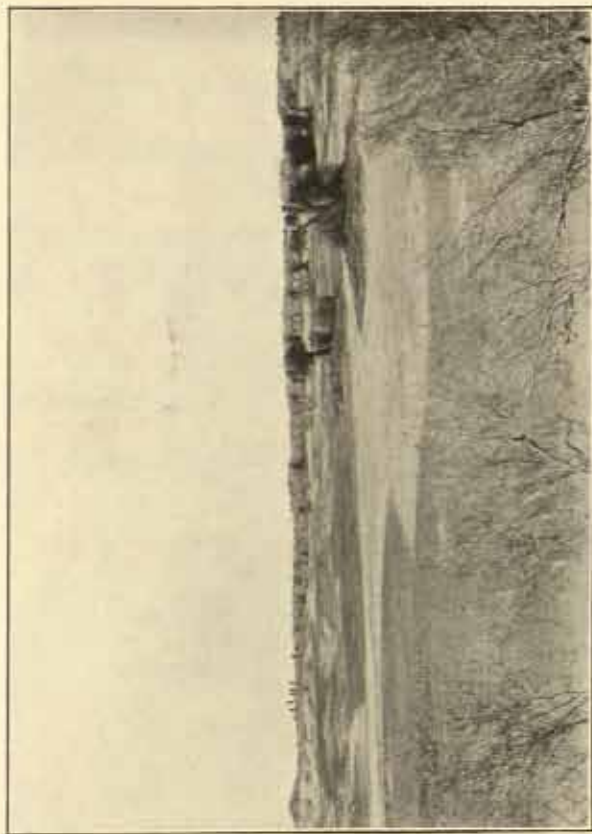
THE four marches of February 22nd–25th, covering an aggregate of about 75 miles, which brought us from Fanūch to the Bampūr river, had little of general and nothing of archaeological interest to offer. The first led up the course of the stream which waters Fanūch and provides moisture higher up for an ample growth of scrub, and then took us across the low watershed which here, at an elevation of about 2,900 feet, divides the drainage towards the Arabian Sea from that of the Bampūr basin. Beyond it, for the remaining 60 miles, the whole of the route led over a gently sloping desert glacis of stony detritus and gravel. Water was to be found only in wells or springs within the larger torrent beds, ordinarily dry, which descend from the hills of Lāshār and Chāmp and are reached by floods after heavy rain.

At Maskhūtān, the first stage, a *qanāt* provides irrigation for the fields of some fifty households; but only some mat-huts of Balūch nomads were met at the stages of Marra and Balūchān-chāh. Here and there low ridges and hillocks of decomposed rock crop out from the glacis to break the monotony of this wide belt of waste. Dreary as were its aspects, it brought back to me memories of happy Central-Asian travels, and the dunes of coarse sand near the broad depression of Giskuk, crossed on the last march to the river, helped to strengthen those impressions. Farther away to the east a belt of heavy sand approaches the river towards Bampūr and Fahreh (or Irān-shahr, to give its latest official name), and thus adds another typical feature to the general character of the great drainageless basin.

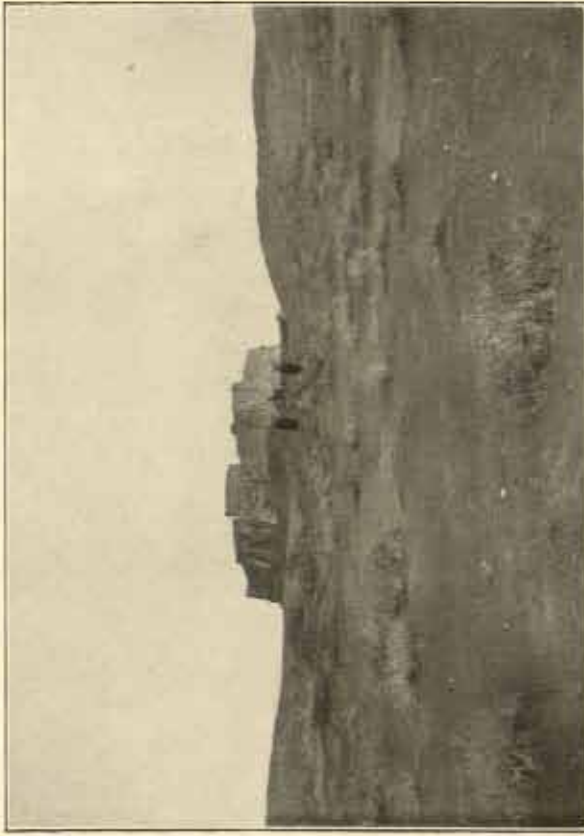
Just before we arrived at the bank of the Bampūr river, near the village of Saiyyidābād, a colony laid out by Saiyyid Khān, Sirdār Ḥusain Khān's father, on the evening of February 25th a dust storm and some drops heralded the approach of rain, the first for fully a year. So we were glad to gain the right bank to pitch our camp, and thus to escape the risk of being cut off from Bampūr by a subsequent flood which might render the river unfordable for days or even a week or two. At the time the river-bed, fully 200 yards wide, held water only in a shallow channel about 30 yards across, while a small canal near the left bank absorbed the rest of the drainage.



33. BAMPUR FORT SEEN FROM SOUTH-WEST, WITH PREHISTORIC SITE IN FOREGROUND



34. PREHISTORIC SITE OF CHĀH HUSAINI SEEN FROM DUNE TO SOUTH-EAST



35. MOUNDS MARKING PREHISTORIC SITE, SOUTH-WEST OF BAMPUR FORT



36. START OF EXCAVATION AT CHALCOLITHIC BURIAL-GROUND, KHURĀB

On the following morning a short march of only 5 miles brought us to Bampūr, the traditional 'capital' of Persian Balūchistān, marked from afar by its conspicuous, if half-ruined, fort rising high above the riverine belt. The track followed led along the edge of the dunes which fringe this belt on the north. It thus skirted the area of cultivation which extends without a break from a couple of miles below our crossing-place right up to Bampūr and beyond. Careless as the cultivation of this area is, yet plentiful irrigation from the river makes its rich alluvial soil troublesome ground for camels. The width of cultivated ground along the right bank of the river steadily increases to a maximum of about a mile and a half at the fort of Bampūr. Beyond the fort, cultivation extends for another 14 miles to near Īrān-shahr or Fahreh, though much neglected in places where the ground is covered by a jungle growth of trees and scrub. On the left bank of the river from Īrān-shahr downwards no cultivation is found at the present day until the narrow tract below Saiyyidābād, to be described later, is reached. To the extensive but also poorly tilled stretches of cultivation towards the hills to the north and north-east of Fahreh I shall have occasion to refer later on.

This rapid survey of the agricultural resources of Bampūr and its neighbourhood will suffice to illustrate the conditions which have made this tract at the head of the Bampūr basin the economic and political centre of Persian Balūchistān all through historical times. Nowhere else in this wide, but for the most part desolate, region is to be found ground affording to an equal extent potential resources for a settled population. All European travellers who have passed through Bampūr since Captain W. P. Grant's and Sir Henry Pottinger's visits in 1809-10 have had occasion to note the sad state of neglect into which cultivation has here fallen, and also the possibilities which the favourable conditions of fertile alluvial soil and water for irrigation offer for recovery under a stable and judicious system of government.

The impressions received during our short stay at Bampūr were apt to bring home all the vicissitudes this centre of Persian Balūchistān had suffered for a long time during alternating periods of oppressive rule from Kermān and practical independence, coupled with much insecurity under rapacious local chiefs. Rising high on what probably is a natural mound overlain by the debris of ages was to be seen the fort of the Bampūr chiefs (Fig. 33), a conspicuous landmark from afar. It consists of a crumbling pile of mud-built towers and casemates at one end (Fig. 31), and of equally decayed barrack-like structures lining an outer lower enclosure at the other end (see Plan 10). Apart from a couple of rooms above the single gateway, occupied by a small Persian guard, scarcely any of the tumble-down quarters looked safe for occupation.

To the south of the fort we found some old trees surviving within what had been a walled garden, now used for cultivation. Adjoining this were some newly built quarters for the commandant of the small garrison, and at a short distance beyond lay a cluster of some fifty mat-huts tenanted by Balūch cultivators and followers. Close by, the mud-built dwellings of two Hindu traders represented the bāzār of this local centre. Camp was pitched in the old garden, the shade of its few trees being very welcome; for here in the basin, at an elevation of only about 1,800 feet, the heat of the approaching spring already began to make itself felt. Later on in the season the climate of Bampūr with its torrid heat and malaria was said to tell severely on the health of the Persian soldiers.

A first rapid inspection made on the day of our arrival, February 26th, had sufficed to show me that the waste ground to the west of the fort was covered with pottery, both on the level ground and on the mounds (Fig. 35), which, as seen in Plan 10, extend over it for a distance of some 300 yards. The variety of the ceramic types to be picked up on the surface indicated prolonged occupation, reaching down to comparatively late times. But some fragments of fine greyish ware painted with animal figures clearly suggested some prehistoric deposits lower down. In order to reach these without too great expenditure of time, excavation was started next morning by a trial trench, *A*, 75 feet long and 4 feet wide, cut across the neck which connects the southernmost mound, about 23 feet high, with its neighbour. The neck in the middle rose to a height of 12 feet above the adjacent level ground. This trench was subsequently extended for 24 feet to the east (*B*), and from its end a cross (*C*) trench dug to the south.

Remains of human bodies, laid out in the orthodox fashion, were unearthed down to a level of about 10 feet from the ground, and these, together with graves subsequently struck in the trenches *B* and *C*, showed that the mound had been used at one time for Muhammadan burials. Besides glazed potsherds and some fragments of querns, there turned up in this top layer some coarse jars of small size, and many fragments of plain pottery bearing a white slip. On a level of 8–9 feet there appeared pieces of pottery painted with poorly drawn patterns in black or red over a red or pink ground. The designs, consisting chiefly of hachures, wave lines and lozenges, as seen in Bam. 6, 205, 206 a, b, 223 (Pls. VIII, IX), resemble those found on the 'late prehistoric' ware of British Balūchistān. Two fragments of a glass bangle, 237, found at 8 feet level, deserve notice.

The immediately succeeding layer, on a level of 6–7 feet, yielded a great deal of interesting ceramic ware. Here were found several small jars with diminutive bases (Bam. 22, 308), not unlike those found at Periāno-ghuṇḍai;¹

¹ Cf. *N. Balūchistān Tour*, Pl. VII.

PLAN 10

SKETCH PLAN
OF
BAMPŪR SITE

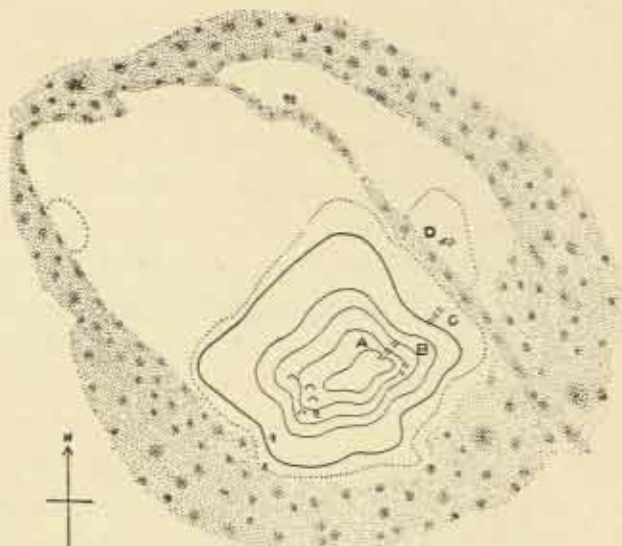
SCALE
200 0 200 400 800 Feet
Contours at 5 feet approximate intervals



PLAN 11

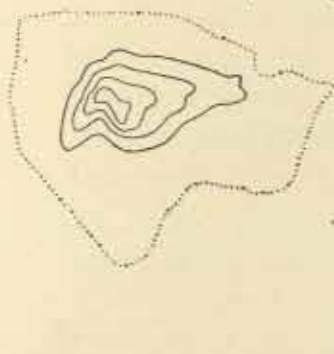
SKETCH PLAN
OF
CHĀH ḤUSAINĪ SITE

SCALE
500 0 500 1000 1500 Feet
Contours at 5 feet approximate intervals



SKETCH PLAN
OF
TUMP-I-SURKH
RŪDBĀR

SCALE
500 0 500 1000 1500 Feet
Contours at 5 feet approximate intervals



PLAN 12

SKETCH PLAN
OF
HAZĀR-MARDĪ MOUND
RŪDBĀR

SCALE
500 0 500 1000 1500 Feet
Contours at 5 feet approximate intervals



PLAN 13

Pottery-strawn area.....
Trial trench.....
Muhammadan graves.....
Well.....

fragments of fine, thin grey ware, and plenty of red pottery bearing painted decoration in black of a characteristic chalcolithic type. Apart from purely geometric motifs, such as rows of triangles, chequers, and miscellaneous hachured shapes (Pl. VIII, IX), numerous specimens showed rows of horned animals highly stylized but obviously derived from those mountain sheep (Ibex) which are to be seen in naturalistic representations on the painted pottery found in the lower strata. The pieces A. 298, 300, 301, 304 (Pl. VII) well illustrate the gradual transformation of the conventionalized animals into mere decorative design. Plates XXI, XXII, XXVII–XXIX of my *Archaeological Tour in Gedrosia* show how common such rows of freely treated mountain sheep are on the painted pottery of certain chalcolithic sites in British Makrān. From the same layer came the terra-cotta figurine of a bull's head, 19, and a horizontally fluted tubular object of stone spreading out into a bowl-shaped head with a stone marble, A. 311 a, b (Pl. X), just fitting the bowl; together they may possibly have served as a toy. The occurrence of highly polished plain ware with burnished lines, A. 240, 303, is of interest. The fragments of perforated pottery such as were found both in this layer and lower down (c. 317; Pl. IX) were frequent also at chalcolithic sites in British Makrān.²

The layer comprising the levels from about 3 to 5 feet above the ground proved particularly rich in ceramic and other remains of interest. Plates VII, VIII, and IX show the great variety of designs painted in black mostly over a red or grey ground.^{2a} Along with numerous representations of that favourite motif, the mountain goat, whether treated in conventionalized or more naturalistic fashion, A. 72–5, 336–42, 345, c. 71, 76 (Pl. VII), we have also a realistic drawing of it in A. 333 (Pl. IX). 'Feathered' trees, such as are often represented on the painted pottery of chalcolithic sites in British Makrān (Kullī, Mehī, Nūndara) appear frequently, as in 87, 133, 383, 380 (Pl. IX), combined with geometrical patterns. The latter in the shape of chequers, lozenges, triangles, &c., are seen alone in 67, 91, 313, 326, 405 (Pl. IX). We find foliate shapes, either detached as in 77, 352 (Pl. IX), or else combined into garland-like ornament (134, 351, Pls. VIII, IX). Zigzag or scrabbled lines, either horizontal or aslant, are inserted between broad bands (A. 78, Pl. VIII; 355, 358, Pl. IX). Numerous little cups and jars, like A. 61, 160 (Pl. XIV), show the small bases characteristic of such vessels from chalcolithic sites of Balūchistān and Makrān. A large jar, A. 162 (Pl. XIV), is decorated with a raised wavy band of black and small painted figures of mountain sheep in the hollows.

A new type of ceramic ware first presented itself in this stratum in the shape of a small jar, A. 161 (Pl. VI), and fragments of a hard dark-grey material,

² Cf. *Tour in Gedrosia*, p. 130, Pl. XXV.

^{2a} For shapes of vessels see Pl. XXXI, 7–8, 15–18.

resembling steatite, incised with fine hachures in geometrical patterns (A. 34, 365, 140-2; Pl. VIII). It proved to be confined to prehistoric sites of the Bampūr area and to be wholly wanting elsewhere at sites of Makrān. Kat. 019 (Pl. VI) is a well-preserved specimen of this ware. Khur. F. i. 263, on the same plate, shows the same type of decoration, but is made of potstone. The number of well-made flint arrow-heads (40, 41, 151, 320, 370; Pl. XXX) found at this level contrasts curiously with the fact that only a single small stone 'blade' or scraper turned up there in the course of our excavation, while similar worked stones have been found in great numbers at all the chalcolithic sites I have been able to examine in Balūchistān and Makrān.³ On the other hand, fragments of worked alabaster from small vessels, common at such sites, is represented also at the Bampūr mound (386; Pl. VIII). Two well-worked stone axes and several small stone objects of uncertain use (371, 372, 438; Pl. XXX) were found at low levels.

The discovery of several fragments of glass bangles, inlaid in colours (376, 416, Pl. X; 418), on levels of 2 and 3 feet, raises an interesting problem. Their association here with prehistoric remains might be subjected to doubts were it not that glass bangles of a closely corresponding type are attested for quite a series of chalcolithic sites from Sīstān to Kulli in Kolwa and Sutkagēn-dōr.⁴ Several of the decorated glass bangles found at different depths of the trench, and also one twisted rod of glass which may have formed part of a bangle, have been subjected to careful examination by the well-known expert, Mr. Horace C. Beck, without any definite conclusion being derived from it as to their age. It deserves to be noted that no distinct difference in the make of the glass was traced between the fragments of bangles from stratified layers and the numerous specimens found on the surface of the Bampūr site (surf. 500, 502, 504; Pl. X). The portion of a wooden comb, A. 33 (Pl. IX), found at 5 feet level, shows a shape closely resembling that of the comb found in a cairn of Suntsar (Pl. X).

The lowest layer cleared, which extended from 2 feet down to the level of the flat ground outside the mound, contained plenty of painted pottery of the same type as already noted from the stratum immediately above. Bands formed of figures of mountain sheep in different stages of stylized design (178, 183, 185, 384, 392, 394, 396, 400, 401, 429, 434; Pl. VII) are very frequent. So are also representations of conventionalized trees (380, 176 + 383) and patterns formed of 'feathered' tree branches and similar motifs (166, 398, 405; Pl. IX). Hachuring is common in geometric designs, such as triangles, lozenges, leaf shapes, &c. (186, 187, 193-6, 327, 428; Pl. VIII). The use of raised wave lines (191,

³ See, e.g., p. 128, concerning the site of Chāh Husainī. pp. 55, 68 sq., 93 sq., 123, 125; *Innermost Asia*, ii. pp. 963, 967.

⁴ Cf. *N. Balūchistān Tour*, p. 40; *Tour in Gedrosia*,

192; Pl. VIII) has its parallel among the Shāhī-tump ware, with which there are points of contact also as regards the fabric and colouring of the designs. Mention may be made among the finds here of several small unpainted jars and a flat plate, 181 (Pl. XXXI), of red plain burnished ware turned upside down over what seemed to be remains of food-stuff.^{4a} The broad trumpet base, 165, may have carried a wide bowl or patera like Khur. L. i. 279 (Pl. XV) and those found at Mehī.⁵ Fragments of decorated glass bangles and small pieces of copper or bronze were found also in the lowest layer reached.

On the last of the five days spent at Bampūr (February 27th–March 2nd) heavy rain, eagerly welcomed by the cultivators, stopped further excavation. But it also washed down on the slopes of the mounds numerous small objects otherwise hidden from view. Thus there were recovered more glass bangles inlaid with brilliant colours or otherwise decorated (Bam. surf. 500–4, 511); a bronze arrow-head; two flint chisels, as well as plenty of pieces of painted pottery corresponding in type to those excavated (see, e.g., the naturalistic mountain sheep, Bam. surf. 440, Pl. IX). There was no reason to doubt that the whole of the mounds to the west of the fort marked ground occupied from chalcolithic times onwards. On the slopes of the great mound which the walls of the upper fort occupy at a height of 95 feet, and those of the outer circumvallation at an average elevation of 50 feet, no ancient potsherds were picked up. This may be due partly to the masses of refuse and debris which have been thrown down there during later times and encumber the slopes. They hide the surface of what apparently is an outlying natural terrace of the gravel glacis farther north. Within the fort itself, which by the courtesy of the elderly Persian commandant we were allowed to visit, the huge refuse accumulations disclosed only pottery of medieval or later times.

Our stay at Bampūr was also utilized to gather information about other old sites from local dignitaries, such as Faqīr Muḥammad, son of Dōst Muḥammad Khān's *wazīr*, the old 'Balūch-bāshi' from Qāsimābād, and intelligent Mullah Ghulām Muḥammad of Īrān-shahr. Small parties of men were sent out to the localities mentioned by these informants to bring back specimens of pottery and the like. These were to enable me to prepare a programme as to the places which might be visited by us with advantage within the available limits of time; for signs of the advancing season made it clear that time would have to be husbanded if the search for old remains within the arid basin, drained by the Bampūr river from the east and the Halīl river from the west, was to be brought to a close before the heat became too great for field work.

^{4a} For shapes of unpainted vessels from various layers see Pl. XXXI.

⁵ See *Tour in Gedrosia*, Mehī. III. 6. 13; Pl. XXX.

I was able to visit from Bampūr a group of small sites within the dune-covered area to the north-west by leaving excavation at the trial trench to be carried on under Dr. Fábri's care. After following the edge of the cultivated area for about 2 miles, my guides turned off among low stationary sand dunes to the north-west and brought me a mile and a half beyond a little flood-bed to a small debris-covered area known as *Deb-i-qādī*. With its patches of wind-eroded ground, traces of wall foundations and low mounds marking enclosures of gardens or mud-built structures, it strangely recalled to me some small *tati* on the edge of the Taklamakān desert. The main patch of bare ground left clear of dunes measured about 250 yards from north-west to south-east and a little less than half that across. About a quarter of a mile farther on, the line of a canal about 8 feet wide could be clearly made out. Among the potsherds, mostly coarse plain ware, there were picked up a small number of painted pieces showing black designs of a type similar to that of the prehistoric ware from Bampūr (Qz. 1-4, 10; Pl. IX). Proceeding about a mile farther in the same direction across dunes rising up to 15-20 feet we reached a somewhat larger debris area, known as *Pīr-kunār*. Here, over a stretch of ground measuring about 500 by 200 yards in width, there was plenty of broken pottery to be seen, especially on two low terraces which seemed to mark potters' kilns. Among the painted potsherds, a number showed designs in black over red or grey ground, closely resembling those of the chalcolithic Bampūr ware, as shown by Kun. 2 (Pl. XI). There were found also fragments of red slip ware, with finely burnished stripes.

It appeared to me probable that the site of a considerable settlement, occupied, perhaps, down to later times, lies here largely hidden below dunes. Whence it derived irrigation is not clear. But it deserves to be noted that after going about a mile and half west-north-westwards we reached an unmistakable flood-bed descending from the glacis of the distant hills to the north and carrying water after rain. Turning east from the high sand ridge bordering this bed, we crossed an absolutely flat plain of bare clay, which is said to hold flood water at times, like one of the *kaps* of British Makrān, and then, at a distance of 3 miles, reached a low rocky ridge called Qal'a-i-Sardagāh. It is covered with the rubble debris of completely decayed dwellings and with abundant potsherds. Among the painted potsherds there were numerous fragments of grey ware decorated with large multilinear zigzags and triangles as seen in Sar. 1, 2, 4 (Pl. IX). These designs are reminiscent of patterns found on certain chalcolithic sites of Northern Balūchistān and at Chāh Ḥusainī.⁶ Potsherds lay on the ground for a quarter of a mile farther to the south-east, and cropped up in patches amidst high dunes for another couple of miles. Considering the configuration of the ground,

⁶ Cf. *N. Balūchistān Tour*, Pls. XI, XIII, for examples.

it appeared to me very unlikely, if not altogether impossible, that this ground of Sardagāh could ever have been irrigated from the Bampūr river. It is certain that water from any other source is not available now for permanent cultivation or settled occupation on this ground. The question of 'desiccation' is thus raised here, but must be considered elsewhere.

Of other minor sites reported I was able from Bampūr to visit the one at Dambiān or Seh-kandakī, situated about $2\frac{1}{2}$ miles to the south-east and near the left bank of the river. From it had been brought some stone beads and a large coarsely painted jar, Dbn. 1 (Pl. V), with angular handle and upright spout. Examination of the ground was made difficult by a rain-storm; but the frequency of relief-decorated and glazed pottery sufficed to indicate later occupation. Another site reported by the name of Maulā to the south-east, in the direction of the well of Gwarpusht, lay too far off to be visited from Bampūr, and on our subsequent journey down the left bank of the river, after excavating at Khurāb, time could no longer be spared for it. There is reason to regret this as the specimens of painted pottery brought from there, such as Mau. 1, 6, 8, 9, 12, &c. (Pl. IX) with their characteristic black designs of mountain sheep, trees, &c., leave no doubt about their marking a place of prehistoric occupation.

SECTION II—UP THE BAMPŪR RIVER

On March 3rd we left Bampūr for Irān-shahr up the Bampūr river in order to visit the head of the basin where information previously gathered seemed to point to the presence of some old sites. There was an additional reason for this move in the fact that the fort now renamed Irān-shahr, and formerly known as Qalāt-i-Nāširī, had been the seat of Persian administration in Balūchistān for a long time past. It now holds the chief garrison of the province, except during the summer months, when, owing to the great heat and other drawbacks of the climate, most of the troops are withdrawn to Khwāsh in the Sarhad hills. The route followed on the march of some 16 miles led partly along the edge of cultivation and partly through a riverine belt where plentiful *kabūr* trees and other jungle vegetation attested the presence of subsoil water and fertile ground suited for agricultural occupation. Abandoned irrigation channels and *qanāts* were met with in places, attesting that this tract had at a time not very distant supported a larger population than that to be found in the scattered small hamlets along the right bank of the river.

Irān-shahr, apart from its large square fort built in the second half of the last century and now kept in good repair, had little of interest or resources to offer. The two little villages clustering amid date-palm groves near it are known

collectively by the name of Fahreh, and this name, recorded also as Fehruj, has been connected with that of the capital of Gedrosia, Πούρα, where Alexander rested his army after its disastrous march through Makrān.¹ Philological evidence is inadequate for this particular location of Pura, as also for the conjecture which would seek a survival of its name in the last syllable of the name Bampūr. But on general topographical grounds it appears highly probable, as I hope to prove when discussing Alexander's route through Gedrosia to Karmania in another place, that the capital of the Gedrosia of his time must have lain somewhere in the vicinity of Bampūr, which has remained the chief place of the province ever since. Possibly some notice of Arab geographers may yet supply a link rendering a more exact determination possible.

Fahreh enjoys a permanent supply of good water from a series of *qanāts* which tap the subterraneous drainage from the right bank of the Bampūr river some distance below the point where it debouches from the Dāmīn valley in the north. The canals fed by them some two miles farther down irrigate lands situated near one of the flood-beds in which the river spreads itself to the east of Fahreh before it takes a sharp turn to the west in a deep-cut united bed. The scrub-covered area to the east, over which those flood-beds extend, holds patches of cultivation, but this is liable to damage by inundation and the vagaries of the river. This potentially fertile ground is hence likely to have undergone considerable changes during historical times. The village of Shahr-darāz, situated in this area at a distance of about 3 miles from Irān-shahr, bears a name meaning 'the large town', but counts only some fifty dwellings, almost all mere mat-huts. The small mound some 4 to 5 feet high nearby, known as *Tump*, which had been reported to me as an old site, showed only a few painted potsherds of uncertain type, and a small debris area west of it only fragments of late ware.

But on proceeding about a mile farther to the south-east towards the hamlet of Sar-kahūrān we were shown another small debris area close to where the wide main flood-bed of the river from Dāmīn is joined by another descending from the hills above Aptār. Here fragments of grey and red ware with painted designs of the same chalcolithic type as at Bampūr were plentiful (Shd. 1, 5, 7, 9; Pl. XI). They suffice to prove that prehistoric occupation extended over this area. At Sar-kahūrān, reached after another mile, there was found a mound, about 20 feet high and manifestly artificial, but showing no remains apart from some low decayed mud walls forming enclosures.

Near Fahreh itself the only place with remains of former occupation is the mound called Qalātuk, not far from the foot of the gravel terraces which overlook Irān-shahr from the north-east. The mound rises about 40 feet above a flood-bed

¹ Cf. Curzon, *Persia*, ii. p. 263.

contiguous with it on the south, and measures about 55 yards from north-east to south-west. Among the rubble and brick debris covering it only a little pottery could be picked up, and this evidently all dating from Muhammadan times, as shown by Arabic letters and patterns. The Qal'a-i-Zangiān to the north of the fort proved to be a steep natural hillock without any traces of occupation.

During our three days' stay at Irān-shahr, the moderate resources of which had to be utilized by us for various practical purposes, there was brought to me by an inhabitant of Dāmīn the small well-preserved jar, Dmn. 01 (Pl. XV.) By its painted decoration of hachured triangles it unmistakably indicated prehistoric make. It was declared to have been found seven or eight years before with others of a similar kind when digging a grave near the main hamlet of Dāmīn. This decided me to pay a visit to the alleged place of the find. The march of about 18 miles which brought us to Dāmīn led first up the westernmost channel of the Bampūr river, lined in places by narrow stretches of cultivation, to where the river issues from a long winding defile below Dāmīn. On a low spur of the right bank near its mouth and opposite to the cultivated patch of Mūrtān a number of *dambs* or burial cairns were noticed. Farther up, small groves of date-palms and sheets of clear water banked up in the river-bed combined with the bare conglomerate hills on either side to present a more pleasing landscape than we were to see for a long time.

After pitching our camp near the left bank of the river below a small fort built by Dōst Muḥammad Khān, Ghulām Muḥammad, owner of the little jar, readily took us to the find-spot. It lay at the detritus-covered foot of a low ridge, overlooking the right bank of the river, some 300 yards to the south of the dilapidated fort of 'Alī Khān, the aged local headman of Dāmīn. There were a number of Muhammadan graves to be seen near the path between the foot of the ridge and a small terrace towards the river bank. Ghulām Muḥammad and other villagers pointed out without hesitation the grave from which a big pot holding the little jar together with a large number of others had been unearthed. From their account it appeared probable that the large vessel was a cinerary jar holding human remains together with funeral deposits such as I had found at numerous sites in Balūchistān and Makrān.²

The statement as to the find-spot was confirmed when, on the following day, I had trenches cut on each side of the grave. They brought to light fragments of painted pottery of unmistakably prehistoric type (Dmn. c. 126, 127; Pl. XI), and others were found in a trench cut across the top of the terrace close by. But as the finds were scanty and care had to be taken not to interfere with recent graves, I found it preferable to turn our attention mainly to a part of the slope of

² See *N. Balūchistān Tour*, p. 36 sq.; *Tour in Gedrosia*, pp. 66 sq., 156 sqq.

the same ridge about two furlongs farther south, where prehistoric painted pottery could be seen strewn on the surface (Fig. 32). A little lower down there lies above the river bank a small date-palm plantation with the few huts of Bāghshat.

As enough labour was easily secured from the villages of Dāmīn, it was possible to clear two trenches each about 50 feet long down the slope to a depth of about 4 feet, where the natural layer of detritus was struck. The yield of painted prehistoric pottery was abundant from about one foot from the surface and uniform throughout. As the specimens reproduced in Pl. XI show, the decorative designs represented bear closest resemblance to those of the chalcolithic painted pottery of Bampūr. Apart from hachured geometric motifs of the same type as found there (Dmn. A. 6, 44-6, 54, 62, 68, 76; B. 104, &c.) and from others where geometric patterns are formed by fascies of fine parallel lines (A. 64 b, 75, 89; B. 110 a, b; c. 127), we found again the row of mountain sheep (A. 4) and the highly stylized trees (A. 60). Animal and bird figures of a peculiar type are seen in A. 22, 75; B. 110 b. The insertion of a raised wavy ridge amidst the painted decoration in pieces like 16, 44-46, is a characteristic feature also of more than one Bampūr piece, e.g. Bam. A. 300, 338.

But what is of special interest is the contact which some of the designs prove with prehistoric sites far away to the east and north-east. Thus the row of Sigmas, familiar from chalcolithic ware of Northern Balūchistān, Makrān, and Sīstān,³ reappears in A. 48, 72, 88, 96. Particularly striking is it to find the Svastika motif, so common on the inside of bowls of funeral furniture at Shāhī-tump,⁴ used here, too, in the identical fashion for the decoration of bowls (A. 67; B. 111; Pl. XII). There is, however, a difference in the Svastika being here three-limbed while at Shāhī-tump it is ordinarily five-limbed. Another design peculiar to the inside of bowls is the fourfold repetition of a 'feathered' *W* shape seen in B. 112, 120, 121 (Pl. XII), which shows some analogy to 'feathered' details on such Bampūr fragments as Bam. c. 70, 327 (Pl. VIII).

Finally, it deserves to be noted that the grey fabric of much of the painted ware and the 'washy' colours used for the designs, changing in the same piece from dark grey to different shades of brown and purple, strongly recall the pottery used for funeral deposits at Shāhī-tump. This and other indications have suggested to me that the slope where the trenches *A* and *B* were cut may have been used for prehistoric burials, and that these were subsequently disturbed by the digging of old Muhammadan graves. Several such graves were disclosed in the course of our excavation.

³ See *N. Balūchistān Tour*, Pl. XIII, R.G. 5, 0135, 011.
19; *Tour in Gedrosia*, pp. 34, 36, 91, 106, 120; *Inner-*
most Asia, ii. pp. 957-69, and iii. Pl. CXIII, R.G. XVI.

⁴ For specimens see *Tour in Gedrosia*, Pls. XV,

Close above the huts of Bāghshat there descends a small valley known as Zehlambān. A gently sloping terrace in the middle not far above its mouth is covered with low, rudely laid-out cairns of the usual type over an area measuring about 250 yards from east to west and more than 100 yards across. A dozen of these cairns were opened. Small bone fragments and potsherds were found in all of them, while five of them proved to contain also complete vessels of coarse hand-made pottery. All of them had flat bottoms, lacking bases. The fabric is of the poorest, being porous clay covered with a whitish slip. A bronze finger ring and small stone beads originally forming three strings were also among the finds. More *dams* of the same type were said to exist higher up the main valley near the Kamsaptar of the Survey map, on the route towards Khwāsh, and also at Sahigān in a side valley to the north-east of Dāmīn.

On March 9th we started from Dāmīn for Aptār, a fairly large oasis some 12 miles to the east of Īrān-shahr, which claimed a visit as being of some local importance. The track led first across a succession of detritus ridges into a wide torrent-bed joining the Dāmīn river lower down. Leaving this, after 9 miles we reached the bed of a smaller tributary, at the mouth of which nestles the little oasis of Katukān. Its 40 or 50 huts were almost all deserted at the time. Fortunately one of the few villagers left behind had learned of our digging at Dāmīn, and took us to a small gravel plateau overlooking the date-palm groves from the south-east, where old pottery might be seen. The plateau, measuring about 200 yards from east to west, proved to be occupied by the *ziārat* of Bābā Hājī, and most of the ground around it to be covered with Muhammadan graves. In digging these much of ancient pottery had been unearthed, as proved by the plentiful fragments of painted prehistoric ware which could be collected on the surface. From the specimens reproduced in Pl. XI it will be seen that the decorative designs on this ware, which is mostly of grey colour, correspond very closely with those found on the chalcolithic pottery of Bampūr and Dāmīn.

Geometric patterns, hachured, cross-hatched, or in fasces (Kat. 4, 22, 24, 27, 28, 33, 010) prevail. Sometimes the outlines of the shapes are scalloped, as in Kat. 1-5, 25. The row of stylized mountain sheep reappears in 20, 011 with raised ridges, straight or wavy, separating the decorative bands. That there is close agreement also in shapes is proved by the well-preserved small bowl, 018, and the little jar, 017 (Pl. XXXII). These were obtained from villagers who had taken them into use. The bowl, which is a warm grey colour, has a roughly painted border on the outside, and the jar shows the bulging sides common in the Nāl type of pottery. Other finds, too, such as the fragments of an alabaster cup and of a glass bangle decorated like one from Bampūr, point to an approximately identical period.

The large fragment of a vase, erroneously marked Dmn. B. 122, stands apart, inasmuch as it retains what looks like part of a loop handle and is painted with a kind of lace pattern known to me only from Diz Parōm in Makrān.⁵ The band of 'pearls' round the neck corresponds to the small ovals found below the rim of the Parōm dishes. It seems probable that this piece belongs to a later deposit. On the other hand, there can be no doubt that the large jar, Kat. 019 (Pls. VI, XXXII), worked in a very hard, dark-grey clay and incised outside with an elaborate geometric pattern, which was brought by a villager as a find from this cemetery, belongs to the same period as the painted ware. This is proved by the parts of exactly similar vessels found associated with the chalcolithic painted ware in a deep stratum at Bampūr and also at Khurāb.⁶ Dr. H. Frankfort has been kind enough to call my attention to the close resemblance shown by part of the incised design to the representation of a dwelling of wattle and plaster, with door and window, seen in the incised decoration of a steatite vessel from the early stratum of Susa.⁷ A similar design is found also on incised fragments of identical material from Bampūr (A. 161, Pl. VI; 365, Pl. VIII).

The character of the ceramic remains of Katukān and the position of the terrace on which they were found, away from water and arable ground, suggest the possibility that the site disclosed by the grave-digging of recent times is that of a prehistoric burial-ground. I must therefore regret that the difficulty created by the sanctity of the place and its continued use as a Muhammadan burial-ground, together with practical considerations due to my programme, obliged me reluctantly to abstain from trial excavations. It only remains to be mentioned that the uniform gravel surface of the plateau showed no indication of any structural remains.

Our onward march towards Aptār took us across a succession of wide torrent-beds all descending from the hill range to the east which forms the watershed towards Magas and the Mashkēl basin of Khārān. On a low hill spur crossed before reaching the wide valley in which Aptār lies I noted the scanty ruins of a small fort known as Nāṣirābād and of no great age. Below it could be traced a stretch of former cultivation which had received water from a *qanāt* now abandoned. At Aptār, too, which was reached thence after crossing numerous dry channels of the Kunāru Kaur, all cultivation at present is carried on by irrigation from *qanāts*.

No old remains were to be found within or close to the palm-girt oasis counting about 200 huts besides a ruinous fort and a few more substantial dwellings. But on proceeding thence eastward up the valley I noticed at distances

⁵ See *Tour in Gedrosia*, p. 48 sq.; Pl. III, D.P. 1, 2.

⁷ See Contenau, *Manuel d'archéologie orientale*,

⁶ Cf. above, pp. 108 sq.; also Khur. F. i. 263 i. p. 270, Fig. 169. (Pl. VI).

of 2 to 3 miles from Aptār a number of ruined *bands*, or embankments, with terraced ground above them. These afford clear proof that cultivation dependent on rain floods only, and without the help of *qanāts*, had been possible on this ground at a period perhaps not very distant. The ruins reported at Mistābād in a nook of the hills near the southernmost bed of the Kunāru Kaur proved to be those of small mud-brick structures clearly dating from Muhammadan times, as shown also by the pottery around them. Moving thence to the north-west for 2 miles across the scrub-covered plain and its torrent-beds we came upon a debris area bearing the name of Kalēra, which measured about 600 yards in length and about 200 yards across. Glazed relief-decorated pottery showed it to be a site occupied during the Muhammadan period.

SECTION III—THE BURIAL SITE OF KHURĀB

On March 10th Īrān-shahr was regained after a 14 miles' march across a sandy waste furrowed by innumerable stony flood beds, and on the following morning we started down for the examination of sites reported on the left bank of the Bampūr river. Its bed was crossed some $3\frac{1}{2}$ miles from Īrān-shahr, above a roughly constructed barrage. This diverts the water from the shallow channel into canals to irrigate what cultivation there is along the right bank towards Bampūr. The bed of the river, where we crossed it, was fully 400 yards wide and was filled with luxuriant tamarisk scrub. But what water there was in the shallow little stream passing down it was gathered solely from springs rising in the bed a short distance higher up. This scanty supply of *siāb-āb*, 'black water', corresponding to the *kara-su* of the oases of the Tārīm basin, represents the whole of the water supply available for the central portion of the Bampūr basin down to where the river-bed terminates in the drainageless Hāmūn of Jāz Mūriān, some 110 miles farther. More water is carried by the river only during short intervals when, after heavy rain, floods descend from the mountains. The question as to whether any change since prehistoric times in the volume of this water supply might be deduced from archaeological evidence was bound to invest this far from attractive ground with special interest for me.

The track followed through luxuriant riverine jungle of *kabūr* (*Prosopis spicigera*) and tamarisk trees brought us after another 6 miles' march to where the stretch of scrubby grazing known as Khurāb begins. Judging from traces of an abandoned *qanāt*, cultivation appears to have been carried on at one time over some parts of the ground. Patches of scanty pottery debris, some of early type, some of later, marked approach to the place where, according to information received at Bampūr, ancient pottery vessels had been dug up in numbers

some ten years before by villagers of Muhammadābād from the other side of the river. The general appearance of the site was far from promising. But when our guide from that village took us to the spot where hollows in the ground marked the reported previous burrowings, it was easy for me to realize from the plentiful potsherds strewn the ground that we stood at a burial-ground of chalcolithic times, and that, though disturbed, it might yet offer a good harvest.

On the morning of March 12th work was started with the small number of labourers it had been possible to collect on a small patch of ground (Fig. 36), slightly raised above the surrounding bare clay which appeared to have undergone wind erosion. A trench first cut here from north to south and gradually extended for some 45 feet brought to light, at a depth of only a foot or two and in different places, two large jars, unpainted, and a couple of broken bowls. One of the latter (Khur. A. 116, Pl. XVII) showed on the inside a painted design unmistakably chalcolithic, and inside one of the jars a cup, A. 117 (Pl. XVII), was found painted in a style familiar from Bampūr; so there could be no doubt about the character of the site. Scattered fragments of human bones and more broken pottery of the same type indicated that funeral deposits previously disturbed had been struck here. Among this debris three fragments of plain glass bangles, black and pale green (Khur. 033-35), were picked up. Neither here nor during the subsequent excavation were such deposits found at a depth anywhere greater than 2 feet from the surface. Hard clay met at one point in *A*, and subsequently also in other trenches, suggested remains of walls of stamped clay or mud bricks, and hence that burials had taken place here on ground previously occupied by dwellings.

When subsequently, on arrival of more labourers, the excavation was extended by other trenches over the closely adjacent ground, it was not long before we came upon undisturbed funerary deposits. The first, B. i, in trench *B*, seen in Fig. 37, contained altogether sixteen closely packed pottery articles, some pots stuck together in nests of two or three. There were little earthenware cups with diminutive foot (B. i. 128; Pl. XVII) familiar to me from Balūchistān sites;¹ several plain bowls like B. i. 127 (Pl. XVII); painted jars like B. i. 119 (Pl. XIV); a small alabaster bowl with a broad and flat rim (B. i. 129; Pl. XXXII); and on the top of a large pot in the centre there lay the fragments of a bronze plaque with a slightly raised rim (B. i. 130; Pl. XVIII). Among fragments of painted vessels B. i. 122 (Pl. XVII) was of interest as it shows a row of horned mountain sheep arranged in the principal zone, as frequent in the decoration of Bampūr painted ware. In the same trench there was subsequently discovered a still larger collection of sepulchral furniture, B. ii, seen in Fig. 38. It lay at

¹ See *N. Balūchistān Tour*, Pl. VII.

a depth of about 2 feet under a layer of solid clay which suggested remains of a mud wall. It comprised upwards of sixty pieces of pottery, among them three large painted vessels. In two of these were found small bowls, no less than twenty and twenty-two respectively in each, with different types of painted decoration, as seen on the specimens B. ii. 136, 137, 142, 149, 153, 158, 161, 162, in Pl. XVI. The principal pattern occurring on outside zones shows groups of horns, manifestly derived from the rows of horned mountain sheep so frequent on the Bampūr ware. In a third large vessel there was embedded a whole nest of larger painted bowls up to 8 inches in width (B. ii. 151, 152, 155, 157, 159, &c.; Pl. XIV). To the varied painted designs reference will be made farther on.

Of the numerous painted vessels, varying in sizes and shapes, as seen in the specimens B. ii. 201-8, 210, 212, 213 (Pls. XIII, XIV, XVII, XXXIII, XXXIV) which were grouped around the foot of the large vessel, one was placed within the large bowl B. ii. 214 (Pl. XIV), broken in antiquity. Fragmentary as it is, this bowl is yet of interest as showing an unusual scheme of decoration with stylized figures of birds. The larger jars, too, found in this notable deposit, like B. ii. 198-200, 203 (Pls. XIII, XIV) are of interest on account of their varied and bold painted designs. Specimens of the numerous cups, showing different shapes and mostly plain, which were found both within the large bowls and around their foot, are seen in Pl. XVII (ii. 133, 166, 169, 170, 174, 178; also Pls. XXXIII, XXXIV). Apart from this mass of ceramic deposits, all meant to symbolize food supplies for the dead in another world, there were found at B. ii several small alabaster cups, ii. 229 (Pl. XIX), and perforated disks; pieces of copper pots (Pl. XVIII; 216, 218); fragments of metal rods, and what may be a spatula.

Trench C, cut on the opposite side of A, led into a portion of the ground which had evidently been burrowed into, and what pottery came to light here was all broken. Among it the fragments of shallow bowls c. 232, 235 (Pl. XII) are of interest as they show designs of curving Svastikas closely resembling those so frequent on similar bowls from the funerary deposits of Shāhī-tump.² The same applies also to the decorative scheme of the large pot, c. 236 (Pl. XII). In trench D, running parallel to A, there were found burial remains which, though not as copious as at B. ii, were of distinct interest. Fig. 39 shows them as cleared. Within the high vessel on the left there survived thin rolls and small loaves of what obviously was bread. Human bones lay all along the collection of vessels, and a badly injured human skull near the northern edge of it. These clearly indicated a fractional burial. Among the plain vessels found here (Pls. XV, XXXIV) there are two conical cups, D. 245, 246, which owing to their very small bases could scarcely have been intended for ordinary household use. They were

² See *Tour in Gedrosia*, Pls. XV, XVI.



37. BURIAL DEPOSIT OF POTTERY, B. i, AT KHURĀB



38. BURIAL DEPOSIT OF POTTERY, B. ii, AT KHURĀB



39. BURIAL DEPOSIT, D, AT KHURĀB



40. BURIAL DEPOSIT, F. i, WITH POTTERY AND BRONZE OBJECTS, AT KHURĀB



41. BURIAL DEPOSIT, E, AT KHURĀB



42. BURIAL DEPOSIT, L. i, OF CERAMIC OBJECTS, AT KHURĀB

obviously made for funerary purposes only, like similar cups found at Shāhī-tump.³ Three painted jars, D. 244, 249, 250, are seen in the same Plate XV, and a copper or bronze bowl with 'disk' base, D. 247, in Pl. XVIII.

Excavation of trench *E*, cut parallel to *B*, yielded one burial with varied and plentiful furniture, as seen in Fig. 41. Here were found some thirty-two earthenware vessels mostly unpainted, including small cups of a characteristic shape, E. i. 253, 254 (Pl. XVI); two metal bowls (E. i. 251; Pl. XVIII); a curious bronze object resembling an axe-head surmounted by a seated camel, E. i. 258 (Pl. XVIII); a complete alabaster jar, E. i. 252 (Pl. VI), and a fine agate bead, 1½ inches long, tipped with gold ferrules at both ends, E. 259 (Pl. X). One small bowl was filled with bone fragments which might have been human.

In the adjoining cutting *F* the objects found in an undisturbed deposit (Fig. 40) were less numerous but also of varied interest (Pls. XVI, XXXII). They included, besides tall jars, like F. i. 266, 271, 273 and other vessels, mostly unpainted, a large alabaster cup, F. i. 262 (Pl. VI); a bronze dish, F. 298 (Pl. XVIII), and a bronze spear-head, F. i. 261 (Pl. XVIII). The finding with these objects of a small cylindrical vessel of a dark-grey potstone, F. i. 263 (Pl. VI), deserves special notice as it conclusively proves that the use of such ware, incised with geometric patterns, and peculiar to the Bampūr basin, as attested by finds at Bampūr, Dāmīn, Katukān, and elsewhere, must be considered contemporary with that of the chalcolithic pottery of these funerary deposits. A specimen of small painted bowls from two minor deposits exposed in trench *F* is seen in F. iii. 274 (Pl. XV).

The gradually increasing number of labourers allowed us, after the second day of our stay at Khurāb, to make a trial excavation also at another small potsherd-strewn patch of ground about 120 yards to the south-west of the one first searched. Here three separate burials were traced. At one of them, L. i, the sepulchral furniture, found only a foot below the surface (Fig. 42), comprised not less than thirty-six pieces of pottery. Most of them were unpainted, but some among these showed unusual shapes. Thus may be noticed the high goblet, L. i. 278, raised on a tall stem and the chalice-like cup, L. i. 279 (Pl. XV), both of 'terra-cotta'. Among the large flat-bottomed vessels, L. i. 276, also of 'terra-cotta' (Pl. VI), has the shape of a flower-pot. Here, too, smaller vessels like L. i. 280, 286, 287 (Pls. XV, XXXIII), all 'terra-cotta', were found packed into large ones, some of the former being fragments broken in antiquity. The other two deposits were smaller and contained mainly unpainted vessels, some showing signs of having been exposed to fire. Among the painted ware comprised in them (see L. ii. 293, 295; Pl. XV) I may mention two shallow bowls of thin grey fabric

³ See *ibid.*, p. 102, regarding pieces like Sh. T. vii. 1 e; ix. 1 b; xiv. d, Pls. XVIII, XIX.

closely resembling by their shape and painted decoration, with cross lines on the inside, those common at Shāhī-tump. From previously disturbed deposits may have come two metal articles found quite apart, one part of a badly corroded cup and the other a large flat plaque which might have formed part of a mirror.

Considerations of time imposed by regard for the programme ahead obliged me to restrict our stay at Khurāb to three days, and excavation work to the limited ground where, as already mentioned, the previous burrowing of villagers afforded definite indications of ancient remains. But the results of the work practicable under these conditions were sufficiently consistent to settle essential points concerning the character of the site. It is certain that the remains found so close to the surface are those of a burial-ground of chalcolithic times. From the way in which human bones, where traceable, were disposed, it may be concluded that the prevailing custom was fractional burial of the bodies of the dead previously exposed. It deserves to be specially noted that while copper or bronze objects among the funerary deposits were comparatively frequent, not a single stone implement was discovered at the site. It would scarcely be safe to take this negative fact for evidence of a comparatively late phase of chalcolithic civilization, were it not for some points of resemblance displayed by the ceramic ware to the pottery found in the funerary deposits of Shāhī-tump which, by their very position on the top of a considerable mound, are shown to belong to a later period.⁴

Before touching upon such points of contact it will be convenient to describe the several types of vessels prevalent among the funerary furniture of Khurāb. Here, too, as at Shāhī-tump and among the vastly more abundant painted pottery from the burial deposits of Susa I, a close relation is observed between the shape of the vessel and the scheme of decoration used on it. The consequent limitation of motifs can obviously be best explained by the convention which tradition fostered by long-continued observance of religious rites is bound to establish and preserve. Thus in the type represented by the numerous shallow flat-bottomed bowls the painted decoration of the inside consists in the middle either of a Svastika usually 'fringed' (see B. ii. 159; c. 232, 235; Pl. XII) or else of 'fringed' *M* shapes variously disposed and varying in number (B. ii. 151, 152, 155, 157; Pl. XIV). It is probable that these two motifs had a symbolic significance, but this has yet to be ascertained. There is much uniformity also in the painted designs running below the edges of these bowls which measure up to 8-9 inches in diameter.

A particularly frequent type is represented by deeper bowls having a small

⁴ Cf. *Tour in Gedrosia*, pp. 98, 103.

base and almost straight but spreading sides (Pl. XVI). Their width, which varies from about 4 to $6\frac{1}{2}$ inches, allowed them to be conveniently packed into nests. Apart from a narrow painted stripe on the edge, they have rarely any decoration within, while that outside is confined to a narrow band below the rim. As seen in B. ii. 136, 137, 147, 153, &c. (Pl. XVI), this band contains most frequently a device resembling a row of horns. The somewhat less schematic form of it, seen in B. ii. 137, suggests that it is a highly stylized development from the row of mountain sheep common on chalcolithic pottery of other sites (see Pl. VII; also B. i. 122, Pl. XVII). Sometimes the band is filled with pairs of triangles touching at the apex (B. ii. 132, 156), with other geometric forms (B. ii. 138, 142, 158, 162; Pl. XVI), or with Sigmas (B. ii. 149). By itself stands the bowl B. ii. 214 (Pl. XIV), deposited in a fragmentary state, with its row of stylized birds divided by hachured shapes resembling an *M*.

The comparatively large series of jars comprises specimens showing more individual treatment. In the large jars, B. ii. 199, 200 (Pl. XIII), standing up to 11 inches in height, geometric motifs in separate zones are combined with stylized trees and flowers. Very frequent are a kind of garland design (B. ii. 198, 206, 207; D. 249), composite geometric patterns (B. ii. 208, 210, 212; D. 244), or, on jars of taller shape, low arches between horizontal bands (B. i. 119, ii. 203, 204, 213; D. 250). Among painted cups those with flat bottoms and almost straight sides (A. 117; B. ii. 163; C. 239; F. i. 264; L. ii. 293; Pls. XV–XVII) are always decorated with zigzag designs, hachured or with fine parallel lines. Such are found also on cups with small bases and curving sides, like B. ii. 174, 178 (Pl. XVII). The shapes of the little unpainted cups B. i. 128; E. i. 253, 254 (Pls. XVI, XVII) with their diminutive bases look distinctly archaic, recalling cups found at Periāno-ghuṇḍai within cinerary vessels and at Sutkagēn-dōr. They might well be reproductions of ancient ware for funerary use only.

The same observation may apply also to such undecorated small jars, like L. i. 283, 285; B. ii. 169 (Pl. XVII), and vessels resembling truncated cones (D. 245, 246; E. i. 256; F. i. 267; Pls. XV, XVI), which could scarcely have been of much practical use to the living. With regard to the large goblet, L. i. 279 (Pl. XV), 8 inches in diameter, it is of interest to note that it corresponds closely to a fine goblet found at the Mehī site in a burial deposit which contained also a triple set of conical cups of a shape similar to D. 246.⁵

On the fabric, colouring, and other technical features of the ceramic objects from Khurāb, Mr. Fred. H. Andrews has kindly given me the following note:

The pottery from Khurāb burials may be broadly divided into two main classes:

⁵ See *Tour in Gedrosia*, p. 139, Pl. XXX; Mehī. iii. 6, 13.

(a) red, or ordinary terra-cotta, and (b) grey. Between these two there are specimens which exhibit in varying degrees the characters of both.

(a) The true red pottery is 'brick' red, occasionally dressed with a richer red washed or smeared over the surface in a thin film and sometimes imperfectly burnished. The fracture is granular and fairly clean.

The shapes and thicknesses are shown in the diagrams of Pls. XXXII-XXXIV, and it may be seen that the vessels are suitable in these respects for ordinary use, and therefore are not necessarily restricted to funerary purposes.

Except for occasional burnishing the outer surfaces retain the pleasing quality of undulation and slight angularity imparted by the pressure of the potter's hands upon the revolving clay, the inner surfaces showing these features in a more pronounced and rugged degree. The bases are either flat (truncated) as in the small cups B. i. 128, F. i. 267 (Pls. XVI, XVII), or discal as in F. i. 273 (Pl. XVI), and are frequently slightly concave or 'dished', to ensure stability when standing; and this, at times, produces almost the character of a ring base. Flat bases when terminating a stem or foot often tend to spread slightly, as in B. i. 128 (Pl. XVII), a form that arises from the natural outward flow of the clay as the potter's hands worked downwards and might be increased towards one side by the drag of the cutting string when separating the pot from the wheel. The rugosity caused by the passage of the string across the under surface may be seen on L. i. 286 (Pl. XV), but is generally more or less smoothed out after the vessel has been cut off from the wheel. Disk bases, which have a projecting edge and are smoothed and finished on the under side, require that the vessel, after removal from the wheel, be reversed and resealed on the wheel for the necessary manipulation. The operation is sometimes extended to the lower part of the side, which is scraped and acquires a degree of flatness like the side of a cone. Such treatment may be seen in some of the smaller cups with truncated bases such as L. ii. 293 (Pl. XV) and F. i. 265 (Pl. XVI), and in some of the bowls and jars.

Rims of vessels are almost all simple, that is, unmoulded. Of the few exceptions are the large bowl B. ii. 201 (Pl. XIII), which has an outward turned keel-shaped rim, and the tazza L. i. 279 (Pl. XV), with a slightly rolled rim. A pleasing treatment is seen in B. 127 (Pl. XVII) and 246 (Pl. XV), where the upward swelling curve of the wall is checked as though by a cincture, and then continues, leaning outwards, sometimes in a graceful curve as in D. 246.

The only raised ornament occurs in connexion with the leaf garland, as on the bowl B. ii. 201 (Pl. XIII), where the undulating midrib is slightly raised.

(b) With grey ware is included that which has a buff and brownish tendency, but is of finer texture in the fracture than the red, and is frequently much harder than either the true grey or the red. The true grey, which seems to be almost exclusively confined to bowls, varies from chalky slate to dark grey and is usually not very hard. Like the buff and brownish varieties, the grey is generally dressed with a very light grey wash or slip which does not adhere very well to the body. Most of the grey bowls have been scraped or pared on the outside before firing, and several have a fine comb-like ripple such as is seen on the large bowl L. i. 291, on L. ii. 295 (Pl. XV), and c. 232 (Pl. XII), and found on pottery from Sistān, Anau, and elsewhere. The ripple is caused by the vibration of the scraper held against the pot while revolving on the wheel during the

process of paring and thinning the wall after the vessel has been reversed and resealed. It is really a technical fault which the potter has often partially effaced by scraping again when the wheel was stationary.

Of globular jars B. ii. 198 (Pl. XIII) is grey and B. ii. 205-8 (Pl. XVII) are greyish-brown. All are of substantial thickness and strong enough for ordinary use. The large wide-mouthed bowl B. ii. 202 (Pl. XIII) is similar to B. ii. 201 on the same plate, but grey.

Decoration. Sir Aurel Stein has already described the painted decoration on this ware, and the following remarks are given merely in amplification of certain details.

Many of the vessels are quite plain and such motifs as are used on the decorated ones are few. One of the most frequent motifs is the leaf garland placed round the upper part of several globular jars and the two large bowls B. ii. 201, 202 (Pl. XIII). The undulating midrib of the three examples on this plate is in slight relief, as are also the border lines of the decorative band on the jar B. ii. 198. It will be seen that the edges of the leaf are serrated in B. ii. 198 and 202, but smooth in 201. Of the four examples on Pl. XVII, B. ii. 206, 207, and 212 have smooth edges. B. ii. 205 is peculiar, having no midrib but groups of horns on the blade of the leaf. (Cf. Bam. A. 162 (Pl. XIV), where the midrib has no blade but a beast occupies each of the hollows.) The background of the garland is hatched. Simplified garlands appear on the jars D. 249 (Pl. XV); F. i. 271 (Pl. XVI); B. i. 119, ii. 211 (Pl. XVII). This garland motif is very widespread and occurs on the pottery from Bampūr, Dāmīn, Katukān, Chāh Husainī, Shāhī-tump, Kēj valley; Sīstān and elsewhere. Its influence is traceable in a very great amount of the decoration on 'chalcolithic' pottery.

The paint used on the pottery varies in colour from dense black to a sienna brown. The variation in colour may be attributable to various causes, such as the composition of the colour itself, the extent of dilution in applying it, the character of the body or of the surface wash (slip), and the inequality of firing. Ceramic colours much diluted or badly compounded sometimes lack the necessary proportion of 'flux' and do not adhere firmly. The influence of time and the conditions of burial would also have their effect. This condition is sometimes mistaken for unfired, non-ceramic painting. It also happens that an unsuitable slip will flake off, bringing the paint with it, as is the case with the jar B. ii. 205 (Pl. XVII), and others, or leaving a mere ghost of the pattern on the underlying body.

A curious effect is produced when the excess moisture used in diluting the paint for convenience of working, spreads beyond the limits of the painted line and forms a sort of aura, just as a blot of ink on moist blotting-paper will do. This is frequently found on some grey ware. In certain examples the paint seems to have exhaled a vaporous influence during firing, which has communicated itself to adjacent vessels and has produced a nebulous version of the pattern thereon. The practice of firing bowls nested one within the other is, in their case, the chief contributory cause of this result. An interesting example occurs in the bowl B. ii. 162 (Pl. XVI), where the border of horns from the outside of one bowl has imprinted a reversed offset on the inside of the other. This also explains why, in this solitary instance among Khurāb bowls, the horns are bending from left to right.

SECTION IV—THE SITE OF CHĀH ḤUSAINĪ

On March 15th our march down the Bampūr river was resumed with a view to examining such old sites as had been reported on the left bank below Bampūr. While passing through the narrow belt of jungle between the river-bed and the sandy waste to the south I noticed that many of the large *kabūr* and tamarisk trees stood on sand cones, 5–6 feet high, looking like the 'tamarisk cones' so familiar to me from the scrubby desert along the edge of the Taklamakān. The growth of these cones clearly showed that cultivation along this part of the riverine belt must have ceased for a very considerable period. Dād Muḥammad Khān, a fine old Balūch headman, and other local informants, told me of a tradition according to which much of the ground here along this southern bank of the river had once been irrigated by *qanāts* taking off from the river. These subterranean canals were believed to have dried up owing to the river having cut its bed deeper. Local opinion attributed to the same cause the necessity for constructing the high *band* or barrage below Īrān-shahr, which holds up the flow of water in the bed and has deprived much of the lands below Bampūr of their former irrigation supply.

Opposite to Bampūr we passed again the long stretch of bare clayey ground, known as *Seb-kandakī*, previously visited from Bampūr, where plenty of late pottery attested occupation in Muhammadan times. No traces of *qanāts* were met with until after about 10 miles' march we reached the head of the canal which carried water to the pleasant little oasis of Saiyyidābād founded by Sirdār Saiyyid Khān, the present Geh Sirdār's father. Here a small, neatly worked bowl in a kind of black soapstone, Saiyyidābād 01 (Pl. XXV), was brought to me. No definite information as to its provenance could be obtained. But its antiquity is not open to doubt.

Thence an almost continuous stretch of cultivation was followed for another 6 miles down to the cluster of mat-huts of Qāsimābād. The 'Tump-i-Qāsimābād' beyond it, where we camped, proved a low mound measuring about 140 yards from north to south and about half that across. Most of it is covered with graves. A trial trench cut next day across a slight depression at its northern end brought to light only coarse red pottery besides a few painted fragments, showing bold design with triangles and hachuring (Qas. 23, 67; Pl. IX). These, with two fragments of flint 'blades' picked up on the surface, sufficed to prove prehistoric occupation. But some pieces of ribbed ware, Qas. 24–6, found on the surface showed that the site was probably tenanted also later. While encamped near the mound there was brought to me by the local headman

a well-preserved painted jar, Qas. B. 80 (Pl. XIII), decorated with a broad band below the neck showing a variety of large geometric designs. It was said to have been accidentally discovered some four years before at the small ruined fort of Qāsimābād. The mention of a number of smaller vessels having been found close together near it pointed to a burial deposit. An excavation made at the foot of the tower which was indicated as the find-place yielded only a few fragments of poorly painted pottery of uncertain type besides a piece of alabaster, Qas. A. 56, fragments of dark-grey ware, and a large bronze button, Qas. 74, which looked late.

Our next objective was the site known as Chāh Ḥusainī, the westernmost of those from which specimens of early pottery had reached me at Bampūr. On March 17th, moving down the small canal which irrigates the fields of the large hamlet of Sardū, after going about $4\frac{1}{2}$ miles, we were shown a small mound known as Tump-i-Zabardast. The potsherds found on its surface did not look old. But occupation of the neighbouring ground in chalcolithic times was proved when one of the Sardū villagers cultivating near by brought a small painted jar of pear shape, with a very small base, Ch. S. 04 (Pl. XIX), which he had recently come upon when clearing a little water channel about a quarter of a mile to the north of the mound. Excavation at the spot brought to light only some small fragments of painted ware decorated with coarse geometric designs. Their chalcolithic origin was confirmed by two other small vessels which were brought to us and which apparently came from the same find. One was a small narrow-mouthed jar, Ch. S. 02 (Pl. XV), of grey ware, painted with triangles on its shoulder and with its echinus-shape corresponding exactly to little jars found at Shāhī-tump and frequent at Nāl.¹ The other vessel was a conical cup, also showing a shape common in chalcolithic pottery from Shāhī-tump and elsewhere.

Continuing our march to the north-west we re-entered the wide riverine jungle belt and reached a small mound known as Bihishtābād, only some 60 yards long and about 10 feet high. Fragments of coarsely painted red ware, of chalcolithic appearance, lay plentifully on the surface; but the distance from water would not allow of a halt here. Three miles more had to be covered before the river-bed was struck. It was here more than 300 yards wide, but held water only in a small pool under its tamarisk-covered right bank, notwithstanding the rain-flood which had passed down the river since our first halt at Īrān-shahr. The sombre landscape curiously recalled to my memory the terminal courses of rivers in the Tārīm basin before they finally lose themselves in the sandy wastes of the Taklamakān. About a mile beyond, to the north-west, camp was pitched at a well visited by nomadic Balūch graziers, and known as Chāh

¹ See, e.g., *Tour in Gedrosia*, Pl. XIII, Sh. T. vi. 3 a, 13 n.

Husainī. Patches of ground close to the well showed distinct traces of having been cultivated at a not very distant time.

The reported old site lay about half a mile to the north of the well behind a ridge of high stationary dunes and surrounded by others. On examination it proved of considerable size and unmistakable antiquity. It forms a mound measuring some 400 yards from north to south and about 500 yards across where widest (see Plan 11). It rises to a maximum height of 22 feet above the patch of fairly level ground, covered with coarse sand and fine detritus, which surrounds it within the area left clear of dunes. Fig. 34 shows the general appearance of the ground as seen from the south-east. What at once attracted attention was the abundance of worked stones, blades, scrapers, cores and flakes, which could be picked up on the surface by the hundred (for specimens excavated, see Pl. XXX). Fragments of painted ware as well as of well-made plain red pottery were also to be found in plenty all over the mound and along its foot. Behind a sand ridge to the north-east was seen another but much smaller debris area. In spite of the close search we made on the surface, assisted by our 'Sultān' and a number of his soldiers, only very few small pieces of bronze or copper could be found, and not a single fragment of glazed ceramic ware. The great variety of designs, all geometric, to be seen on the painted potsherds was very striking.

The arrival of about forty labourers collected overnight from Sardū enabled us to start excavation next morning by a trial trench, *A*, opened eastward from the top of the northern high portion of the mound for a distance of 80 feet.² Carried to a depth of about 6 feet it passed everywhere through fairly soft soil, evidently composed of refuse and decomposed clay from habitations, without striking anywhere recognizable structural remains. Coarse pottery, mostly hand-made, was found throughout, and worked stones, blades, borers, flakes, and a few cores (Pl. XXX), from a level of 18 feet downwards. Painted potsherds were met with from a 16-foot level downwards, and were particularly numerous in the stratum from 12 feet to 14 feet. In this were found also a well-finished bone needle, together with fragments from high-polished bone implements. Interesting finds made at 16-foot level were part of a large grey vessel decorated with a black painted and raised garland midrib, 11 (Pl. XIX), and the fragment of a black glass bangle inlaid with a brilliantly coloured pattern, 47 (Pl. X). From approximately the same level came the fragment of a vessel, 17 (Pl. XIX), pale buff with an incised ornamentation of comb-drawn horizontal and wavy lines.

On a level about 2 feet lower there turned up a quern, similar to those

² Objects found in trench *A* are marked Hus. 1-107; those collected on the surface of the mound, Hus. 108-459; those from trench *B*, Hus. 460-537; those from *C*, Hus. 539-84; those from *D*, Hus. 585-7.

found at various chalcolithic sites (Kulli, Mehī, &c.); a hone; also a human skull, very brittle and crushed, together with other bones apparently of small animals. Around lay ashes and charred fragments, but the bones were not burnt. Layers of ashes and burnt earth were laid bare at varying levels from about 12 to 16 feet. Among the miscellaneous finds in the trench were also numerous fragments of alabaster cups like Hus. 39, 106, and marble, Hus. 56, 74; a few slinging stones; shaped fragments of shell; also fragments of a fine-grained soft stone worked apparently into flat plates. Hus. 101 (Pl. XIX) is a stone slab bearing a curious resemblance to a human sole. What deserves special mention is the association observed throughout of well-painted good pottery with coarse handmade ware and worked stones.

Two smaller trenches were also opened, one, *B*, about 100 yards to the north-east on a low level, and the other, *C*, to the south-east on a level of about 15 feet. At both places burnt earth and plentiful fragments of good plain ware on the surface suggested use of the ground for kilns. But these indications extended only for a foot or two from the surface. In *B* there were found, among many pieces of well-painted ware, the large bowl 508 (Pl. XIX) and several fragments large enough to permit of reconstructing the vessels of which they had formed part (see, e.g., 472, Pl. XIX). The trench *C* yielded among miscellaneous finds numerous flint blades; a small bronze fragment; pieces of alabaster and sandstone cups; several stone pestles and a stone mortar, 539 (Pl. XIX); a stone quern and roller; and from a level of 13 feet the fragment of a glass bangle, Hus. 553 (Pl. X) with coloured inlay closely resembling that found in *A*. A few small fragments of copper also turned up.

Subsequently, before our departure on March 20th, I had a small mound, *D*, in the detached debris area across the dune ridge to the east probed by excavation in two places. Little of painted pottery was found here apart from the complete tumbler, 585 (Pl. XIX), showing a herring-bone pattern painted in black over a red slip below the rim. There was found here also a large vessel of coarse hand-made pottery, 19 inches wide at its mouth and 17 inches deep to its flat bottom, filled partly with small stones and charred fragments.

Before turning to the subject of the painted pottery, which is of special interest at this site, I must mention a curious observation bearing on its physical aspect. I found the surface around the mound, where clear of drift sand, uniformly strewn with an abundance of small pieces of black stone which suggested debris of lava or some other eruptive material. Its presence on the gravel ground can well be accounted for, as the extinct volcano of the Kōh-i-Bazmān rises some 56 miles to the north of Chāh Ḥusainī. We could sight its snow-capped summit, 11,470 feet above the sea, on the morning of our departure. The gravel glacis

stretching up to its foot would facilitate such eruptive material being carried down by floods. But it was rather puzzling to find small quantities of the same black stone deposited also throughout the layers of the mound where exposed by cutting trenches. The only explanation which suggests itself to me is that these stones got embedded in the earth used for mud walls of dwellings or else were laid down to form a flooring for mat-huts or similar primitive habitations.

The painted pottery found both on the surface and at varying depths of the mound (for specimens see Pl. XIX) shows such common characteristics that it can safely be attributed to a single protracted phase of production. Its chief features may be briefly described as follows. The fabric is generally a well levigated and thoroughly burnt clay over which in most pieces a pale-buff slip has been applied. In some fragments the slip is red, turning sometimes into reddish-brown, purple, or plum colour. The paint used for the design is ordinarily black, but in some cases shading into purple or brown. In one or two polychrome specimens (532, 534; Pl. XIX) a grey tint is also employed in the design. In comparatively rare pieces a polychrome effect is obtained by adding over a white, buff, or red ground designs in black and purple, or else over ground partly red and partly purple a decorative pattern in grey and black. On some pieces one or more zigzag lines are reserved in the ground colour, running through heavy masses of black or black and grey. Such examples have usually also broad patches or bands of dull crimson (532, 534). In almost all painted pottery the colours resist any moderate rubbing. This, however, is not the case where crimson is applied; this colour is usually not fired on, or else the colour is non-vitrifiable and is therefore not fixed by firing.

In the patterns the predominance of straight lines is a very striking feature, and this makes the variety of the patterns produced with these limited components, as illustrated by the specimens shown in Plate XIX, all the more remarkable. Triangles, squares, lozenges, and zigzags are the commonest elements used. In their combination we note real inventive power. Hachuring and cross-hatching is in frequent use to give 'body' to designs. On the other hand, patterns composed of curved lines, such as leaf-shapes, festoons, &c., are extremely rare. This and the total absence of animal figures or representations of natural objects such as trees constitute a marked difference from the decoration of painted ware found at other Bampūr sites. If to this difference is added consideration for the abundance of worked stones and hand-made pottery, including mat-marked ware such as 258 (Pl. XIX), it seems justifiable to draw the conjectural conclusion that the remains of Chāh Ḥusainī belong to an earlier phase of chalcolithic civilization than those, fairly uniform in type, recovered from the other sites we succeeded in tracing within the Bampūr area.

In support of such an assumption—and for the present it would scarcely be safe to call it otherwise—attention may be called to the fact that Chāh Ḥusainī is the lowest of the localities on the Bampūr river from which prehistoric remains were obtainable. If in the Bampūr basin there has taken place a diminution of the supply of water carried by its river, corresponding to that which my observations in the valleys of British Makrān indicate as having occurred since an early prehistoric period,³ this 'desiccation' is likely to have made its effect felt sooner towards the terminal course of the river than farther up.

My endeavour to trace, if possible, the burial-ground of this important site remained fruitless, and its very size left little hope of trial excavations producing much more of definite evidence than that already secured, except with an expenditure of time greater than we could afford. The approach of Naurōz, the great Persian festival religiously observed in these parts, would in any case have deprived us of labour for the next few days. So I felt obliged reluctantly to renounce further work at Chāh Ḥusainī and to resume our travel westwards. But as I took leave of the site on the morning of March 20th with a farewell look round its dune-girt great mound, I felt encouraged to hope that it may yet attract in the future the thorough exploration that its remains fully deserve.

³ Cf. *Tour in Gedrosia*, pp. 34, 41, 132, and *passim*.

CHAPTER V

TO RŪDBĀR AND JĪRUFT

SECTION 1—PAST THE JĀZ-MŪRIĀN DEPRESSION

FOR the journey that was to take us past the marshy depression where the Bampūr river from the east and the Halīl Rūd from the west find their termination, two routes offered themselves, one passing north and the other south of the 'Hāmūn'. On both sides progress for a large party such as ours was practicable only along a line of wells on which it would be possible to depend with assurance for a sufficient supply of drinkable water. Carefully collected information had shown that quite a series of *tumps* were to be found all along the northern route, whereas on the one to the south none were known beyond the well of Chāh Aḥmadī, marked on the Survey of India map with a query to the east of the Jāz-Mūriān marshes. What finally made me decide on the northern route was the consideration that since it leads along the glacis of hill ranges higher than those to the south of the basin, there was a possibility of their greater drainage having in early times permitted of cultivation at more points than the few at which it could be found now along this route. Nor was the fact to be ignored that the important line of communication connecting Bampūr with Bam and Kermān must always have followed this route, at least for its initial portion.

A journey of about 163 miles brought us in the course of ten marches from Chāh Ḥusainī to Tumbut on the terminal course of the Halīl Rūd. The ground traversed bore uniformly the character of a scrubby desert of gravel, hard clay, or sand, broken at intervals by shallow drainage beds and narrow strips of jungle along them. Hence no account of the ground passed on each march is called for. Throughout, water was to be obtained only from wells, often difficult to find without local guidance and brackish. Since most of them are at times liable to dry up, others have to be sought in their place by travellers and the Balūch nomads grazing in this area. This will explain why only a few of the local names recorded in the Map, Sheet I, are to be found on the route as marked in the Survey of India maps, Nos. 25. I, M, and 31. A, published between 1910 and 1915. The boundary between Persian Balūchistān and the province of Kermān crosses this desert tract about midway, but is ill defined. This helped to increase the constant trouble about obtaining a change of camels for our baggage and for us

men to ride. Ever since we had entered Persian Makrān it had proved impossible to secure either ponies or donkeys as mounts. The extreme scarcity of these animals is accounted for by the absence of adequate fodder.

The first march of some 24 miles, done for a short time in a drenching down-pour, brought us to Pulkī-chāh, where the day of Naurōz necessitated a day's halt. It was used for a visit to a mound reported near the well of Gala-chāh, about 4 miles to the north-west. This mound, situated among low sand hills, measures about 130 yards in diameter and rises to about 10 feet. No painted or other decorated ware was to be found among the plentiful potsherds, all coarse red or greenish-yellow plain ware. This, by its association with late glazed pottery at mounds farther on, could safely be assigned to Muhammadan times. On March 22nd, passing Gala-chāh, we moved to the brackish well of Chāh Ghulām. Half a mile south-west of it lies a low swelling of the ground bearing plentiful pottery debris. Apart from some glazed painted fragments and a few with simple incised patterns, most of the pottery found here consisted of coarse ware bearing a greenish or white slip and seemed of medieval date. There was no flood-bed to be seen anywhere near, but traces of an old *qanāt* accounted for the former cultivation.

The next day's march of 27 miles took us past a small patch of intermittent cultivation at Kalanzū, to which water is brought in years of good rain by a well-marked flood-bed descending from the hills to the north. A mound near this, about 150 yards in diameter and some 10 feet high, showed over parts of its surface coarse potsherds with a greenish or yellowish slip, besides fragments of late glazed ware and some with poor relief decoration. Before reaching camp at the mound known as Tump-i-Just, or Tump-i-Gulmurti, we crossed two *qanāts* which carry water to the small cultivated lands of Gulmurti about a mile farther south. The mound measures some 320 yards from north to south and about 130 yards across, and rises to a maximum of 12 feet. Potsherds of coarse red ware, often bearing a greenish or light cream slip, together with rare glazed fragments, indicated occupation in Muhammadan times. A second mound about three-quarters of a mile to the north-west, only 80 yards across and 17 feet high, proved to bear coarse potsherds of a kind similar to those of the first. The small fragment of a relief-decorated vessel with Kufic characters impressed from a mould, Gul. 5, confirmed this dating. But the bottom part of a large vessel, found deep down in digging a *qanāt* of Gulmurti, showed a superior fabric and a carefully burnished inside, and evidently dated from some earlier settlement.

Dalgān, which was reached on March 24th after a short journey, is at present the only place on the route offering a minimum of supplies and deserving to be called a hamlet. The track leading to it makes a detour round the marsh of Chīl-

i-Nādir, which receives drainage from the Hundiān hills to the north. A flood-bed from the same passes the alluvial fan on which the fields cultivated by the forty-odd families of Dalgān are situated. But the water to irrigate them is supplied by four *qanāts* carried down from the side of Gulmurti and restored, according to the local landowner's statement, some twenty years before. Dalgān lies at the point where the route from Bampūr to Rūdbār is crossed by one leading from Rāmishk and the Bāshakard tract in the south to Rīgān and Bam. In more prosperous times it might have been a stage of some importance for caravan traffic. But I could learn nothing of old remains there.

The next two marches took us past several places with mounds showing pottery of the same late type as at those previously visited since Chāh Ḥusainī. There was a small mound at Chāh Rubāhī, about 11 miles from Dalgān, and a much larger one 6 miles farther on called Tump-i-Sipāhī from a fort which once stood on it, the debris of the walls of which now strews the slopes. The mound rises to a height of 23 feet, and with the pottery-strewn ground around extends over some 360 yards from north to south and half that distance from east to west. Here, too, only coarse red or cream-coloured ware, often with a greenish slip, could be found besides rare fragments of glazed or incised pottery. Traces of an old *qanāt* were said to exist to the north of the mound. From its top we could sight a long stretch of salt-encrusted ground, some 7-8 miles away, marking the edge of the Jāz-Mūriān marshes. At Gumbat, a mile and a half farther to the north-west, the track passes a few fields irrigated from shallow wells, and a small mound surrounded by pottery debris of the same late type. At Chīl Kunār, too, where we camped on March 26th, such traces of former occupation were to be seen near an abandoned *qanāt*.

The following march brought us to Penk, where a few fields are tilled with water drawn from wells. Beyond them rises a fairly conspicuous mound, 18 feet high and measuring about 40 yards across its top. Among the usual coarse red, buff, or greenish plain ware found here were some glazed fragments and others bearing relief patterns from moulds or flat 'ribbing', indicating occupation, perhaps prolonged, during the Muhammadan period. We had now definitely entered an area included in the tract of Rūdbār belonging to Kermān. Though a succession of sand-storms effaced the view of the higher hill range of the Kōh-i-Shāh Sawārān, it was possible to discern indications of the slightly increased drainage it supplies in the ampler growth of jungle vegetation. At the Ziārat of Zeh-kalūt, where we halted on March 28th, the glittering white walls of a shrine surrounded by graves with inscribed headstones of marble marked the approach to a somewhat less destitute region. A similar cemetery covered a low mound, some 200 yards in diameter, at the Ziārat-i-Mīr Mikdād, which was our

next stage and the last of this desert journey. What potsherds could be picked up on the mound were all of the same coarse late ware we had noted at every mound from Gala-chāh onwards.

From the Ziārat-i-Mīr Mikdād, also known as Ziārat-i-Zergardī from the name of the surrounding ground,¹ I decided to turn south towards the terminal course of the Halīl Rūd in search of older sites. Before, however, setting out in that direction on the morning of March 30th I was able to visit the small oasis of Chāh Ḥasan, stretching for about 1½ miles to the north-west of the Ziārat and watered by a small rivulet descending from the Kōh-i-Shāh Sawārān. Though the dwellings here, too, were only mat-huts, it was easy to see from the appearance of the well-laid-out fields that their tillers were true Persians and not mere Balūch, whom they look down upon as semi-barbarians. Within the little oasis lies the Tump-i-Dehgān, 'the Cultivator's Mound', a practically flat debris area, measuring 440 yards from north to south and about 300 yards across. On it glazed potsherds, both plain and patterned, mingle with plenty of unglazed plain ware, pink or cream-coloured in body, and relief-decorated fragments. The designs on these latter pieces, all cast from moulds, are in very close agreement with those on pottery found at such early Muhammadan sites as Qalāt-i-Jamshīd and Hūkird. Hence the conclusion seems justified that occupation here preceded the Mongol period. On a smaller debris area, about two furlongs to the south-east, the ceramic remains were of the same kinds.

Before I proceed to give an account of the sites examined along the terminal course of the Halīl Rūd some general observations on the ground traversed since leaving the riverine belt of the Bampūr river call for record. After the ample evidence of prehistoric occupation which we had been able to gather all along the area watered by the Bampūr river from Dāmīn down to Chāh Ḥusainī, it was a surprise, far from welcome at first, to find that the remains of all the mounds surveyed since leaving the Bampūr area dated from later times. Nowhere on our passage to the vicinity of the Halīl Rūd did we succeed in tracing any sign of prehistoric settlements having existed on this ground. The negative evidence thus afforded deserves all the more attention because, from the close agreement between the indications gathered in advance from my Balūch informants and the facts ascertained by inquiries on the journey, it may be safely concluded that there are no mounds of any size to be found in this desert tract apart from those which we were shown and actually examined.

¹ The two names are shown in the Survey map No. 25. 1 for two separate localities, Ziārat Zergardī being shown 3 miles to the east of Ziārat-i-Mīr Mikdād. It is an instance of duplication, evidently due to a slight error in the compilation

of two distinct route surveys. At Ziārat-i-Mīr Mikdād the route coming from Bampūr is crossed by another coming from Rīgmatī on the lower Halīl Rūd and leading to Rīgān in the north.

But this negative evidence assumes a definite antiquarian interest when considered in the light of another observation. I refer to the fact that wherever we found mounds, whether adjacent to present cultivation or not, it was from *qanāts* that the water for irrigating land near them is likely to have been obtained, just as it is now. From this it seems safe to conclude that cultivation dependent on the system of underground canals, widespread and old as it is in Īrān, was not yet known in chalcolithic times. That it was fully established in the Arsacidian period and then already considered of ancient date is proved by an interesting passage of Polybios which connects its introduction in certain parts of Western Asia with the very beginning of Achaemenian rule.² If we take into account the presence of chalcolithic sites low down both on the Bampūr river and also, as we shall see, on the Halīl Rūd, it seems justifiable to conclude that the complete absence of remains of chalcolithic times in the intervening area points to *qanāt* irrigation not having been known as yet in that period, and further that this area bore even then a distinctly desertic character. Considering the importance which the *qanāt* system has had for the greatest part of Īrān all through historical times, the indication thus furnished of a definite *terminus post quem* may claim special interest.

The ground traversed by the route we had followed may claim interest also from the point of view of historical topography. For there can be little doubt that Alexander's line of march from the capital of Gedrosia towards Karmania lay across this area and probably along this, the nearest and most practicable, route. We have seen that the Gedrosian capital where Alexander rested his army after the terrible march through Makrān must have been situated somewhere in the neighbourhood of Bampūr. That his way to Karmania, the present Kermān, led past Jīruft, the fertile tract on the upper Halīl Rūd, is made certain, as I shall have occasion to show farther on,³ by the indication which Arrian's *Indikē* affords as to the position of the place where Nearchos found Alexander encamped after having started in search of the king from Harmozeia, the present Mīnāb.

From Arrian's account of Alexander's move into Karmania it is clear that after the army's arrival at the capital of Gedrosia its sufferings had come to an end.⁴ We may account for this partly by what Arrian tells us about the timely help which Alexander's worn-out force had received in the matter of transport. We are told of Stasanôr, the satrap of Areia and of the Zarangians (i.e. Herāt and Sīstān), and Pharismanês, son of Phrataphernês, the satrap of Parthyaea and Hyrkania (i.e. the provinces south and south-east of the Caspian), that 'in setting out to join Alexander they took with them a multitude of beasts of

² Cf. Polybios, *Reliquiae*, x. xxviii.

³ See below, p. 157.

⁴ Cf. *Anabasis*, vi. xxvii 1.

burden and many camels, because they learned that he was taking the route through the Gedrosians, and conjectured that his army would suffer, as it actually did. These men therefore arrived very opportunely, as did also their camels and beasts of burden.⁵ A look at the map shows that this transport, anyhow from the side of Sīstān, would have reached Alexander in good time while his army was still in the Bampūr area.

SECTION II—BY THE LOWER HALĪL RŪD

From Chāh Hasan I turned to the south-west in order to reach the Halīl Rūd at Tumbut, which the local information collected indicated as the lowest permanently occupied place on the river. The line followed by our guide took us first across a grassy plain to graziers' huts near Jamūrī, a conspicuous sandy ridge, and then into a wide stretch of scrub-covered clayey ground known as Takkul. Here, at a distance of about 6 miles from Ziārat-i-Mīr Mikdād, I found a debris area where wind erosion working on the flat surface had exposed plentiful pottery of manifestly chalcolithic type over a space measuring some 440 yards from north-east to south-west and about half that across where widest. In addition to superior pinkish-red plain ware, many painted pieces of fine greyish pottery were to be picked up here, showing geometric patterns in black familiar from Bampūr sites and Shāhī-tump, as seen in Tak. A. 8, 20, 28 (Pl. XX). Part of a small cup, Tak. A. 16, has the characteristic small base of chalcolithic ware of this shape. Fragments of alabaster cups and some worked stones confirmed the dating.

About a mile to the south-south-west of this area, *A*, I was shown a second patch of pottery-strewn ground, *B*, roughly 300 by 200 yards in extent, rising to a small ridge about 8 feet high on the south. Here the patterns coarsely painted in black over ground, varying in colour from pink and purple to whitish and greenish grey, seemed to suggest a somewhat later make (Tak. B. 52; Pl. XX). But flint flakes (Tak. 38, B. 55; Pl. XXX) were found here also as well as fragments of alabaster. At a third debris area, *C*, visited half a mile to the south and extending for some 500 yards from north to south and about 300 yards across, the plentiful painted pottery closely resembled that at *B* (c. 62, 68, 74; Pl. XX), but included also some pieces painted in two colours (c. 110, 112). Flint flakes were collected here also.

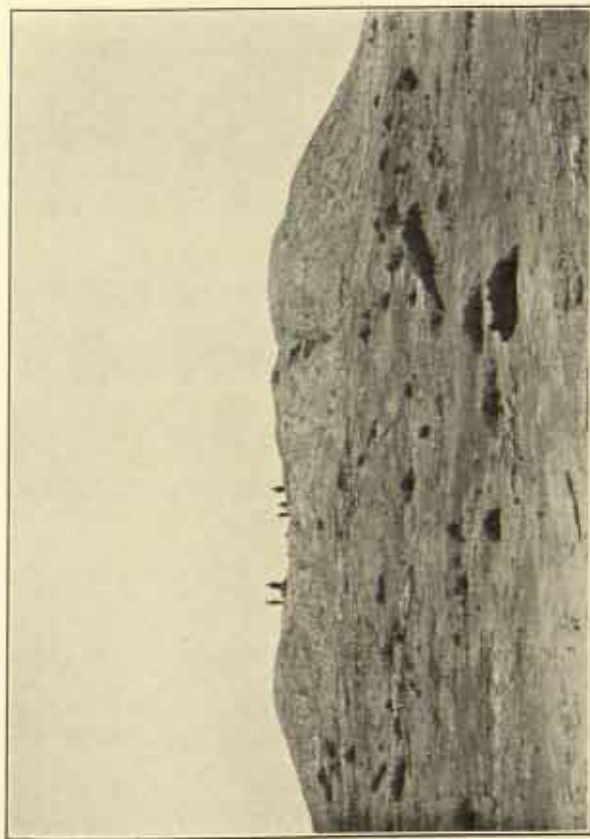
The evidence, thus secured on the surface, of a fairly extensive prehistoric settlement having existed on this ground would have induced me to halt at Takkul for trial excavation. But the escort and baggage had moved ahead from

⁵ See *Anabasis*, vi. xxvii. 6, as translated in M'Crindle, *Invasion of India*, p. 178. Cf. also Curtius, ix. x. 17, 18.

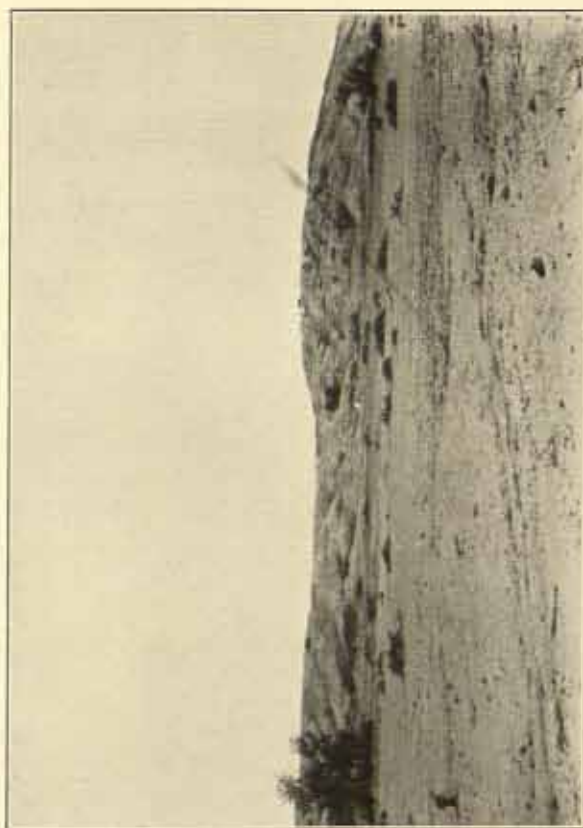
camp during my visit to Chāh Ḥasan and could no longer be recalled. It was also uncertain whether a well with sufficient water for our large party could be found within convenient reach of the site. That this must have received water in early times from the Halīl Rūd is certain. In fact, on continuing our march for 2 miles we arrived at a well-marked dry bed, some 60 yards wide, which at certain seasons was said to be reached by floods from a river branch known as Jū-i-Shāhābād. After another 4 miles' march across a scrubby steppe we passed through a stretch of cultivated ground which appeared to have been recently reclaimed. Finally, we struck the narrow belt of cultivation on the river's left bank near the huts of Rēgābād. As the river was said to be rising in flood, a safe ford had to be sought a couple of miles lower down. Its inundation bed there proved fully half a mile wide and the main channel holding water at the time about 35 yards across, with a depth of 3 feet. Judging from this and the canals subsequently encountered on both sides of the river, I was led to conclude that the average volume of water carried down by the Halīl Rūd from the high ranges and plateaux south of Kermān is considerably greater than the drainage gathered in the Bampūr river.

The *tump* reported at Tumbut, when visited next morning, proved to be a small mound situated amidst fields about a mile to the west of the hamlet and only 20 yards in diameter. It is thickly coated with salt efflorescence. Probably owing to this and to the alluvium which irrigation has deposited around it, no pottery was to be found on the surface. The heat, which had made itself felt increasingly during the last few days on this low ground—Tumbut lies at an elevation of only about 1,500 feet above sea-level—made it advisable to husband our time. I therefore decided to move first to the large mound known as Tump-i-surkh, situated some 5 miles to the north-west of Tumbut. A visit to Qalāt-i-ganj, a ruined site reported some 18 miles to the south-west at the foot of a low range of hills just visible from Tumbut, was to depend on the specimens of pottery to be brought from there by a local retainer of Sirdār Ḥusain Khān. Of any mounds lower down the Halīl Rūd I could learn nothing locally.

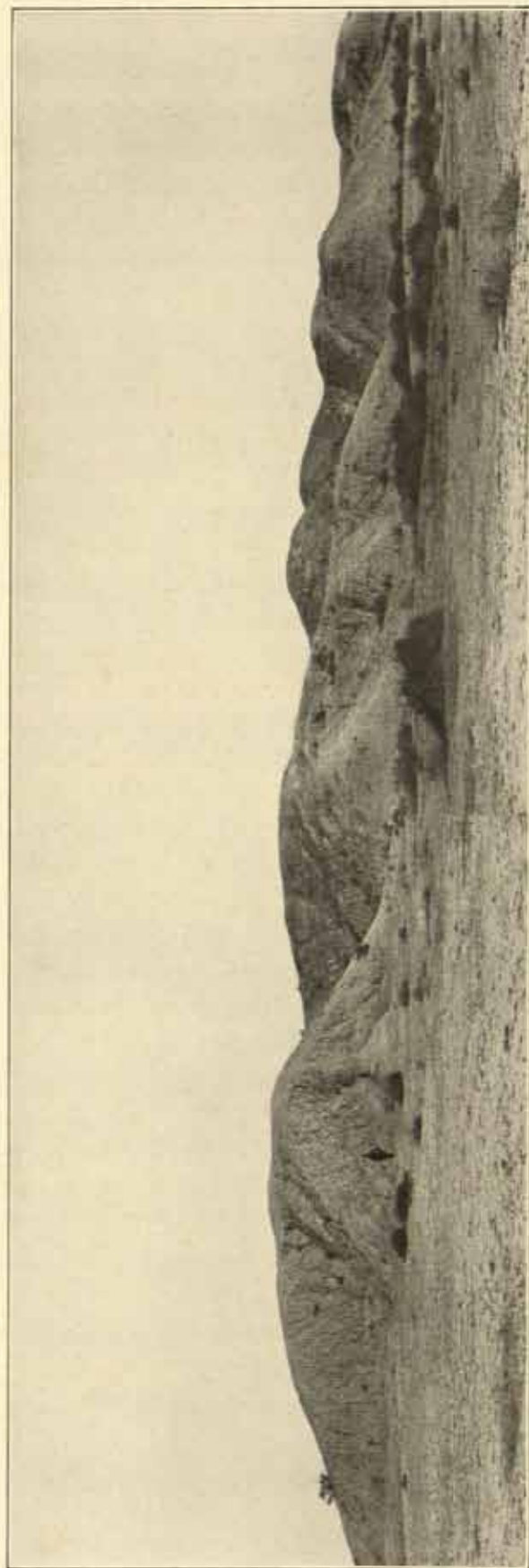
Surface finds at Tump-i-surkh pointed to a site of chalcolithic occupation inviting trial excavation. But the difficulty about getting our baggage camels across deep-cut irrigation channels *en route* caused delay. So I used the interval for the examination of a mound reported near the village of Mīrī to the north, beyond the left bank of the river. It was reached after another 8 miles' ride partly across cultivated ground, and partly across the wide inundation bed of the river, here thickly covered with tamarisk scrub and swampy in places. The mound, measuring some 120 yards in diameter and rising to 15 feet in the middle, bears on the surface plenty of coarse plain pottery of the same varied



43. MOUND OF TUMP-I-SURKH, SEEN FROM EAST



44. PORTION OF HAZĀR-MARDI MOUND, SEEN FROM NORTH-EAST



45. MOUND OF KUNĀR-SANDAL, SEEN FROM SOUTH-EAST

colours as found on the mounds passed on the journey to Rūdbār. But since the only indication of earlier occupation consisted of one or two flint flakes and the absence of glazed ware, it did not appear justifiable to spare time for closer investigation.

The site known as Tump-i-surkh (Fig. 43) consists of two mounds, a larger one to the north, and a smaller one at a distance of some 700 yards to the south. The name of 'Red Mound' applies properly only to the northern mound, which, as the sketch plan (Plan 12) shows, measures close on 300 yards from east to west and about 200 yards across where widest. The debris-strewn area around is much greater. The mound derives its name from the abundance of plain pottery with which it is strewn, mostly of red or pink body, but often showing slips of purple, cream, or greenish-grey colours. As search on the surface did not yield any painted fragments, such as could be picked up on the smaller mound to the south, I preferred to confine our short trial excavation on April 1st to the latter.

This mound, measuring about 60 yards in diameter and 15 feet in height, differs strikingly from the larger one by the whitish colour of its surface. A trench cut down its south side for a distance of 60 feet and to a level of 3 feet above the ground exposed throughout soft clay full of ashes, charred remains and animal bones. Fragments of painted pottery, found from + 13 feet level downwards, were few; but their black zigzag patterns (Sur. 2, 26; Pl. XX) agreed closely with those found on chalcolithic pottery from Chāh Ḥusainī. Flint blades and borers turned up in different layers, and the find of a flint core shows that they are likely to have been worked on the spot. Pieces of coarse hand-made ware were numerous and included a nearly complete small pot, Sur. 27. Among fragments of small vessels worked in stone there is one made of the same white fine-grained sandstone as found at Chāh Sardū and Chāh Ḥusainī. Fragments of alabaster and a couple of hones may also find mention. The finds of metal objects include a bronze javelin-head, Sur. 57 (Pl. XVIII), a bronze needle and bronze pins, Sur. 53, 54 (Pl. X). It deserves to be noted that neither on the surface nor in the excavated layers of this mound was there found any of the comparatively fine red pottery so plentiful on the larger mound. As the debris of the smaller mound certainly accumulated in chalcolithic times, that red ware may be assumed to be later.

The specimens of pottery brought from the site of Qalāt-i-ganj far away to the south-west closely agreed in their type with this last-named ware. They comprised also ribbed pieces, and thus pointed to occupation in historical times. It appeared, therefore, preferable to continue the move up the Halīl Rūd with a view to reaching the administrative centre of Rūdbār at the oasis of Kahnū, where there was hope of securing much-needed fresh supplies. Our

march of April 2nd took us first across an alluvial flat cultivated in patches to a chain of low rocky hillocks known as Surkh-qalāt. On an isolated small 'kopje' near its end, reached after a march of 5 miles, we found the remains of a small walled enclosure about 18 yards in diameter, built with sun-dried bricks. In the absence of any pottery near by, the time of occupation remained uncertain. But we had proceeded only about a mile and a half beyond when we passed a typical *tati* area, where wind erosion has laid bare plentiful pottery debris manifestly dating from different periods.

This area, measuring about 600 yards from east to west with a maximum width of close on 400 yards, had been mentioned to me at Tumbut under the name of Tump-i-Surkh-qalāt, the 'Mound of the red fort', though it rose nowhere more than a few feet above the level of the flat alluvial ground around. Besides plain pottery bearing slips of pink, buff-white, or greenish colour there were picked up here painted fragments (see Pl. XX for specimens) showing geometric patterns in black (Kal. 1-5, 7, 9) and resembling the ware of Chāh Husainī also in ground colour and fabric. But in addition there were numerous pieces (see Kal. 2, 11) where the decorative scheme is made polychrome by the addition of purple or red. The appearance of volutes in some painted designs also suggested occupation continued into later prehistoric times. Worked stones in the shape of flint blades and flakes were frequent. Some fragments of decorated glass bangles turned up here also as at prehistoric sites of Bampūr, Makrān, and Sīstān.

In view of this varied character of the finds picked up here on the surface it is certain that the Tump-i-Surkh-qalāt marks a site occupied for a prolonged period. The force of wind erosion, which has reduced the mound to its present insignificant height, was appropriately demonstrated to us by the violence of a sandstorm which overtook us soon after passing the site, and obliged us to halt in semi-darkness for hours on a stretch of utterly bare ground. The gale with its driving sand continued also after we had reached ground covered with slight scrub and had been able to pitch camp at the hamlet of Hazār-shāh, to which a small canal carries water from the Halīl Rūd.

A march of about 18 miles to the north-west carried us on the following day first across low broken ridges, and then over gravel *dasht* with gradually increasing vegetation into the wide trough which holds in its centre the fairly large oasis of Kahnū. Drainage from the hill ranges to the west and south-west, which in the Kōh-i-Kalmurz and Kōh-i-Gireh rise to heights over 5,000 feet, assures an adequate supply of water for its *qanāts*. But none of this drainage reaches the Halīl Rūd, towards which the trough slopes down. The date-palm groves and fields irrigated by the *qanāts* stretch in a more or less continuous line

for a distance of about 6 miles. Kahnū comprises now only scattered hamlets of mat-huts, besides a ruined fort tenanted down to modern times. Yet it must have been a place of some local importance from an early period, since it is the point where several routes leading from the coast at Mīnāb, the ancient Hormuz, meet others towards Bam and Kermān. I could learn nothing of old remains in the vicinity during the two days' halt imposed by regard for the rest needed by men and beasts and for the collection of supplies. But the stay proved both pleasant and useful owing to the help and information which the capable commandant of the small local garrison, Sultān Nūr 'Alī Khān, kindly provided for our onward journey.

This was to take us to Bam and thence to Kermān, where our operations of this field season were to close. Reports about the numerous mounds to be seen in the Jīruft tract stretching along the Halīl Rūd, together with the advantage of gaining higher ground and thus coolness on the way by crossing the Jabal Bāriz range, had previously induced me to choose this route. Instead, however, of gaining Jīruft by the direct route leading north from Kahnū, I decided to move first eastwards to Bijnābād beyond the Halīl Rūd, in order to examine a series of mounds which were indicated in its vicinity both by the Survey of India map and local information. Starting from Kahnū on April 6th, we struck the Halīl Rūd once more after a march of 12 miles across a scrubby *dasht* and past the small date grove of Shōdap. Where the river was crossed near the village of Jamālābād we found its volume less than near Tumbut, but it still filled a channel about 100 yards wide to an average depth of 1-1½ feet. It was difficult to make sure whether the diminution was due to the melting of the snow on the Jabal Bāriz and the ranges towards Sardūyeh and Isfandāqeh having ceased, or to the fact that several canals take off from the river some 13 miles higher up, and do not return their water into the river until some distance below Bijnābād.

About a mile from the left bank of the river and to the north-east of Jamālābād there extends a stretch of salt-encrusted ground measuring about 380 yards from east to west and rising to some 10 feet in the middle. The numerous fragments of painted grey ware, decorated with black designs (see Jal. 1, 3, 4, 11, 15; Pl. XX), together with pieces of alabaster cups and worked stones, clearly indicated occupation in the chalcolithic period. Moving on for 5 miles, at first over bare alluvial clay and then through a wide belt of fields cultivated in different years, the cluster of hamlets collectively known as Bijnābād was reached. Close to these, on the north-east side, there rises a conspicuous mound to a height of about 25 feet in the centre. It measures some 320 yards from north to south and about 380 yards across where widest.

By the side of plentiful plain pottery, much of it bearing a cream or greenish-



grey slip, fragments of coarsely painted ware like Bij. 1 (Pl. XX) were extremely rare; but pieces of fine red ware (Bij. 8) often showed burnished stripes such as I found at early historical sites in Sīstān and elsewhere. There were some fragments of roughly incised ware (Bij. 3) and a single one, Bij. 18, with blue glaze. We found no worked stones, but a few fragments of alabaster cups, a well-made bronze arrow-head (Bij. 22, Pl. X) grooved on three sides, and part of a bronze buckle. The combined evidence of these finds seemed to suggest that the site had seen prolonged occupation during historical times, but had probably been abandoned before the advent of Islām.

The same conclusion suggested itself when next morning we proceeded to visit the mound situated about a mile to the north-east of our camp at Bijnābād. It bears on its top the modern fort of Gust-i-burjān (Fig. 46) built by Samsūn Khān, uncle of a Kahnū chief still alive in exile. The mound, 22 feet high, rises within a debris-strewn piece of ground, measuring approximately 340 yards from east to west and 260 yards from north to south. To the south-east of it there stretches a still larger mound, measuring about 500 by 450 yards, and rising to a maximum height of 10–12 feet. The abundant pottery consists almost exclusively of plain ware showing slips of red, cream, buff, or greenish-grey colour. Only very few pieces with reddish-brown patterns on buff ground (Gus. 18, Pl. XX) or of red ware with burnished stripes could be found. Two or three fragments of glazed blue or green were picked up, but not a single worked stone.

About two miles to the north-north-west of Gust-i-burjān there rises within partly cultivated ground of Mizhpudān village the mound of Tump-i-Namurdi. It is 16 feet high in the centre and measures approximately 400 by 320 yards at its base. A portion of it is occupied by graves. The abundant pottery found here shows close agreement in type with that found at the mound of Bijnābād. It will hence suffice to mention that fragments of glazed ware were more frequently found here, and that a few fragments of red or buff slip ware show coarse designs in black as seen on Nam. 10 (Pl. XX). The occurrence of broken handles seems also apt to confirm the later dating.

Approximately contemporary occupation may be assumed also for two low mounds which lie close together at a distance of half a mile to the south-west of Tump-i-Namurdi, adjoining the small hamlet of Saulūyeh. The nearer mound measures about 180 yards from north-east to south-west and 220 yards across, and the other some 430 yards in diameter. Here, too, the great mass of plain pottery bears the same character as at the mounds in the Bijnābād area already described, a few painted fragments (Sau. 3, Pl. XX) showing coarse cross-hatching in brown over terra-cotta ground. At all these mounds the total absence of worked stones on the one hand and of relief-decorated ware such as

is so common at sites occupied during Muhammadan times may be considered as significant indications of the approximate *termini, ab quo* and *ad quem*, of occupation.

Proceeding $2\frac{1}{2}$ miles thence to the north-west, across an area of bare clay with rare marks of intermittent cultivation, we arrived at the great mound of Hazār-mardī (Fig. 44). The several deep-cut irrigation canals which branch off at its foot had greatly delayed the march of our baggage camels, and after a rapid inspection of the mound I was able to use the time thus available for a reconnaissance ride in the burning heat of the afternoon to the site of Tump-i-Kharg 5 miles farther on. Since a brief inspection proved this to date from Muhammadan times I felt induced to spare a day for a trial excavation on the Hazār-mardī mound. Rising at its highest point to 30 feet above the debris-strewn ground around, this mound measures some 570 yards in length, from north-west to south-east, with a maximum width of 200 yards (see Plan 13). Labour secured overnight from hamlets around allowed us to put fifty-odd men to work on a trench cut for some 30 yards from a level of 15 feet down to 6 feet above the flat ground, and to extend it for another 10 yards at right angles from the bottom.

The finds made in the trench were less abundant and varied than those gathered on the surface, but they may be mentioned first. At the head of the cutting there came to light, at a depth of 2 feet, a large intact jar 3 feet high with a diameter of 2 feet 8 inches across the shoulder and rapidly tapering to the narrow bottom. Its mouth, 12 inches across, was closed with a burnt brick, 14 inches square and 3 inches thick. The inside was empty. At various depths were found pieces of plain vessels with handles (Haz. 73, 79; Pl. XX) as well as with small lugs (Haz. 84) intended to hold strings such as often appear on pots found in burial cairns. Among plain pottery, pieces with a greenish slip were fairly frequent. Highly polished plain grey ware turned up on a 13-foot level. Of polychrome painted ware, showing geometric designs in grey-black and red over a buff slip, 74, 75 (Pl. XX) are specimens. Fragments of green glazed pottery turned up at different depths down to a 7-foot level. Part of a small jar found at 10 feet level is of interest as showing an opalescent creamy glaze, and recalling the small jug III. xxxi found at the cairns of Jīwanrī.¹ 93 (Pl. XX) is part of a large vessel with a band of bold ribbing below the mouth. A fragment of a potstone bowl, with traces of paint on the rim (Haz. 80) and portions of querns were the only stone objects found.

Among the potsherds collected on the surface there were numerous specimens of painted ware (see Pl. XX) which by their designs painted in black over a

¹ Cf. *Tour in Gedrosia*, p. 81, Pl. IX.

deep-red burnished ground (2, 6, 36, 43, 46, 56, 58) or by their polychrome decoration in black and pink over a buff slip (1, 53, 57, 59) distinctly recall the 'late prehistoric' ware of Balūchistān and Makrān sites. Of interest are also several pieces of plain pottery showing distinct flat ribbing (16) and a relief-decorated fragment (63). Two fragments of thick earthenware stands, with holes passing through the base, probably served as crucibles for melting precious metals like the complete specimens of such objects found on the top of the Dabar-kōṭ mound.² The general impression I derived from the varied evidence of these finds was that the accumulation of debris layers at the mound started during late prehistoric times, but that occupation continued into the pre-Muhammadan portion of the historical period. Noteworthy indications in support of this view are afforded by the total absence of stone implements and by the prevalence of burnished pottery over painted or glazed ware.

The Tump-i-Kharg (Fig. 48), to which we moved camp on the morning of April 9th, is certainly by far the largest of all mounds in the Rūdbār District. It rises close to the left bank of the Halīl Rūd to a height of fully 30 feet above the canal, which passes at its foot on the west. The mound proper, as the sketch plan (Plan 14) shows, measures some 470 yards from north to south and about 400 yards across where widest. But the debris-strewn area is much larger, extending approximately for 1,100 yards from north to south and some 800 yards across. On the north-west and close to the river-bed the main mound is adjoined by a small fort (Fig. 49) known as Qal'a-i-khwāhar. Its walls built with rough stones, set in mud below and on the top in hard plaster, still stand to a height of 13 to 15 feet and form an irregular heptagon of which the longest faces, on the east and west, measure 60 and 64 yards, respectively. Small bastions, eleven in all, project at the corners and at irregular intervals along the curtains. A gate is clearly recognizable in the middle of the east face, and another is probably marked by a gap in the west curtain. The walls serve as a kind of revetment for what obviously was a portion of the main mound separated from the rest by a wide cutting made to serve as a ditch. This makes it appear very probable that the construction of the fort belongs to a period when the debris accumulations constituting the mound had already risen to a considerable height. The interior of the fort is flush with the present top of the walls, and shows the same pottery debris as covers the main mound.

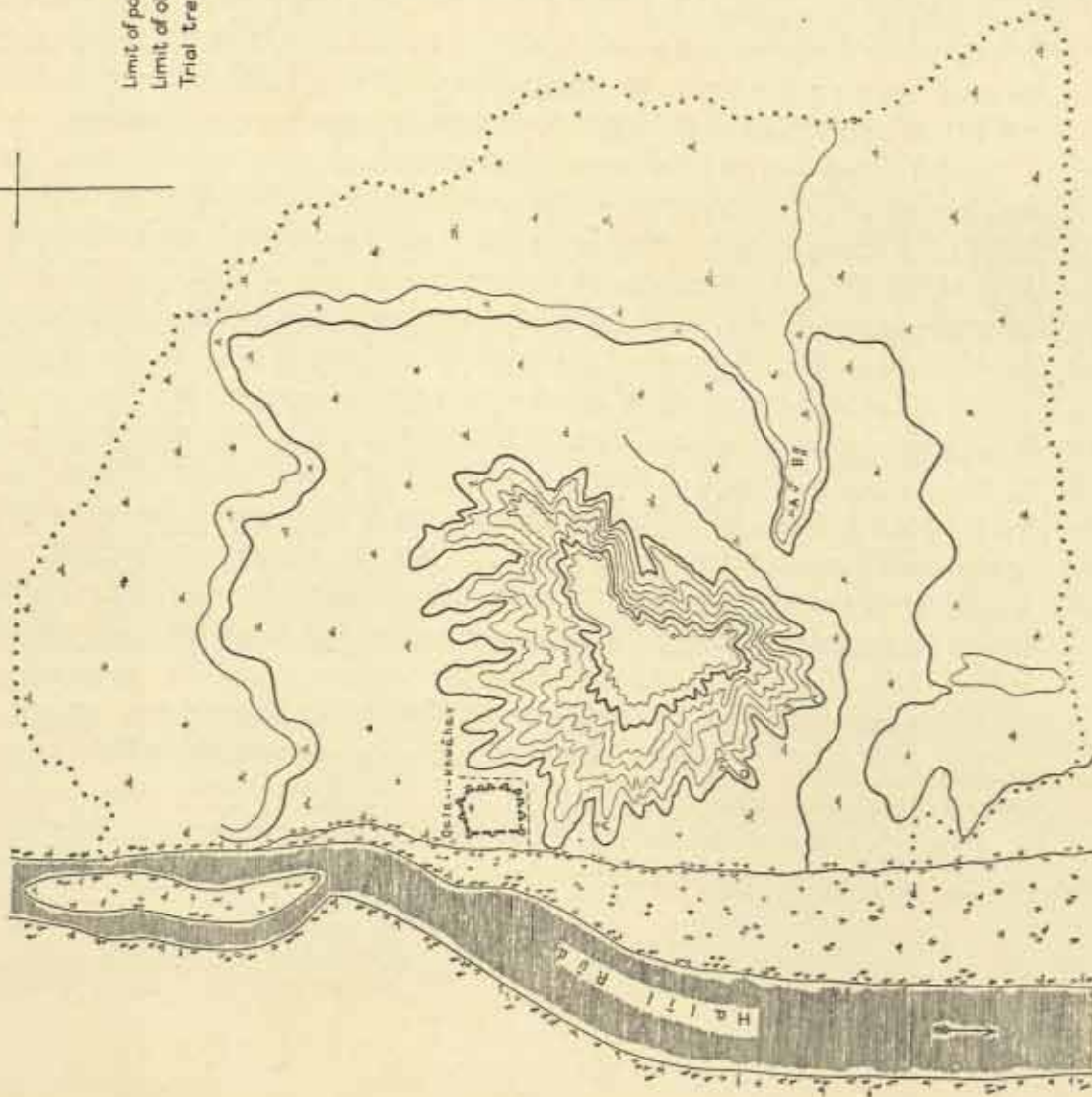
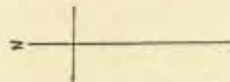
The mound and the ground around bears on its surface abundance of broken pottery, both plain and glazed, and plentiful fragments of burnt bricks. In view of the latter, the complete disappearance of structural remains from the surface is very striking. Numerous ravines descend from the top of the mound and

² See *N. Balūchistān Tour*, p. 60.

SKETCH PLAN
OF

TUMP - I - KHARG

SCALE
0 100 200 300 400 500 600 700 800 900 Feet
Contours at 5 feet approximate intervals



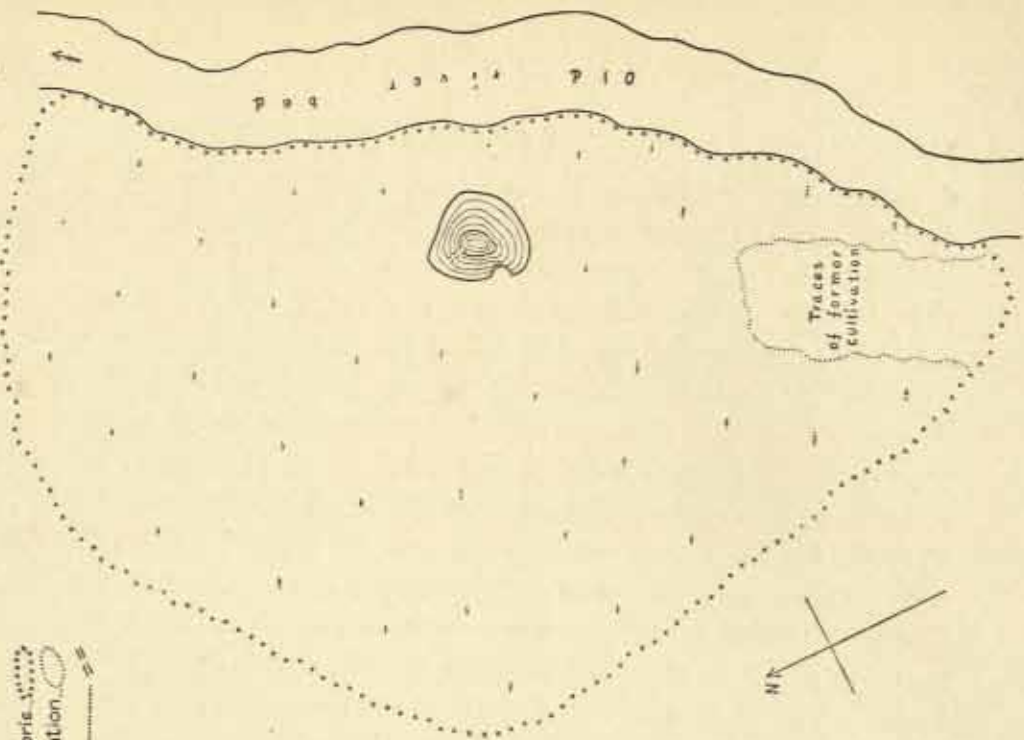
PLAN 14

SKETCH PLAN
OF

TAL - I - IBLIS
HAIDARABAD

SCALE
0 100 200 300 400 500 600 700 800 900 Feet
Contours at 5 feet approximate intervals

Limit of pottery debris
Limit of old cultivation
Trial trench

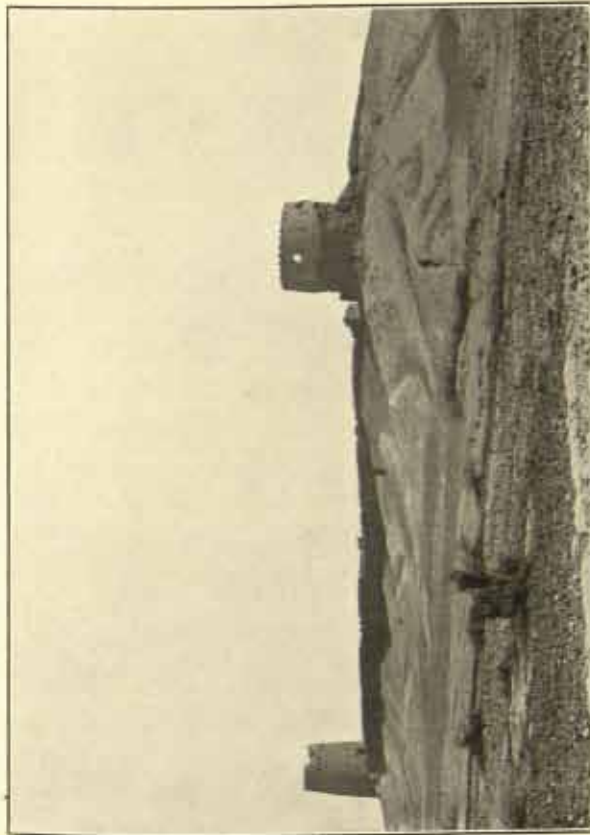


PLAN 15

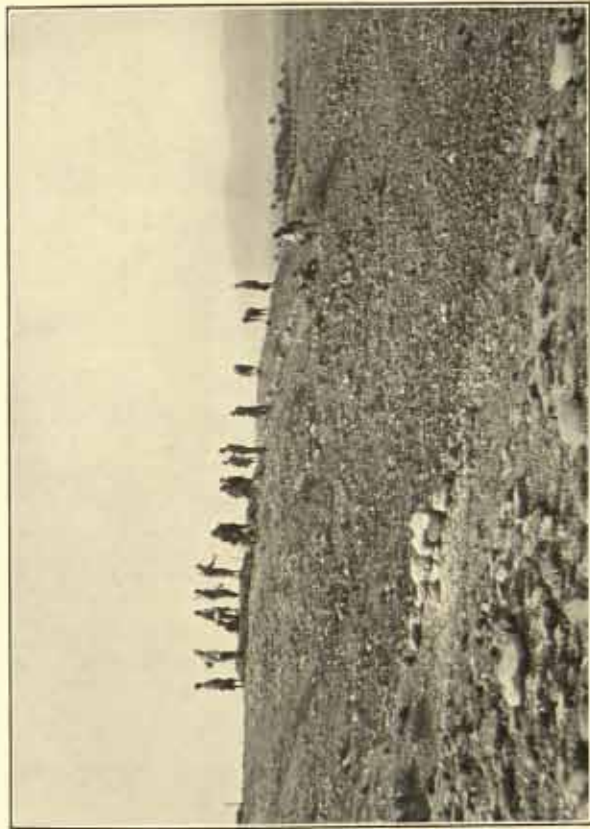
deeply furrow its sides. Yet nowhere could remains of walls be traced on the surface, either there or on the debris area adjoining the base of the mound. The marked effect of erosion as shown by those ravines makes it all the more significant that, in spite of close search, not a single fragment of prehistoric painted ware could be found at the site, and only a single stone flake which looks as if worked for use. A *terminus ad quem* for the occupation of this large site is indicated by fragments of glazed pottery with incised ornamentation closely corresponding to that found at Qalāt-i-Jamshīd and Tīz. This and the presence of a great deal of relief-decorated and stamped grey ware corresponding to that of Shahr-i-Dāqianūs in type (for specimens see Khar. 18, 19, 51, 70; Pl. XXII; Kar. 18, Khar. 56 are moulds for such ware) proves the site to have been inhabited down to the twelfth-thirteenth century. The same observation applies also to glazed ware with bold patterns in white slip over dark brown (Kar. 37; Pl. XXII) or with decoration in brown lines over pale straw-coloured slip and almost colourless glaze (Khar. 61, 62; Pl. XXII). Glazed relief ware in peacock green (like Kar. 20; Pl. XXII) is also represented as at Dāqianūs-shahr, the site which, as we shall see below, was destroyed during the Mongol invasions. But that the occupation of Kharg must have started much earlier is shown not only by the height of the mound but also the great predominance of plain glazed pottery in a striking variety of colours over the glazed ware with incised ornamentation.

In the absence of any guidance by structural remains traceable on the surface, and in view of the great extent of the main mound, I thought it best to confine the brief trial excavation practicable to a low swelling of the ground to the south-east of the mound where glazed pottery lay particularly thick. The trench cut at *A* brought to light, at a depth of 3 feet, part of a burnt clay pipe, 5 inches in diameter, which belonged to a drain traceable for 12 feet, constructed with burnt bricks of varying sizes, the largest of which measured $12 \times 12 \times 1$ inches. The drain appeared to have been made with materials from some other building. Farther on the trench cleared a pavement of large burnt bricks, measuring $12 \times 12 \times 3$ inches. Miscellaneous fragments of glazed ware were the only finds made here besides a bronze spoon, Khar. 81. In a second trench, *B*, cut about 40 yards to the south-east of the first, there was found a large pot, broken but almost complete, glazed both inside and outside with a fine silvery blue. Two mis-shapen cups found here suggested the vicinity of a kiln. The fragments of glazed ware found at different depths showed varied colours: green, ochre, white, and mottled brown. Some pieces of glass vessels, white or green in colour, were also recovered.

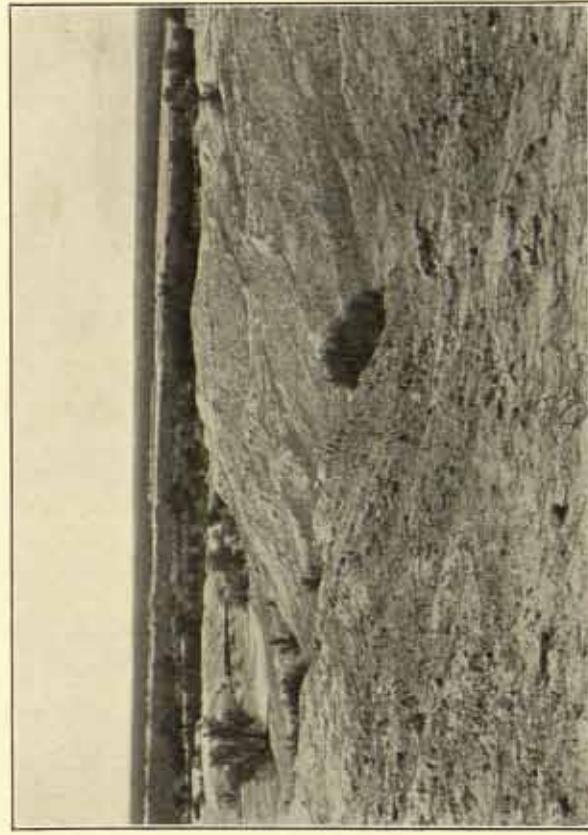
It is evident that the Tump-i-Kharg marks the position of a town which was inhabited down to medieval times and probably was already a place of impor-



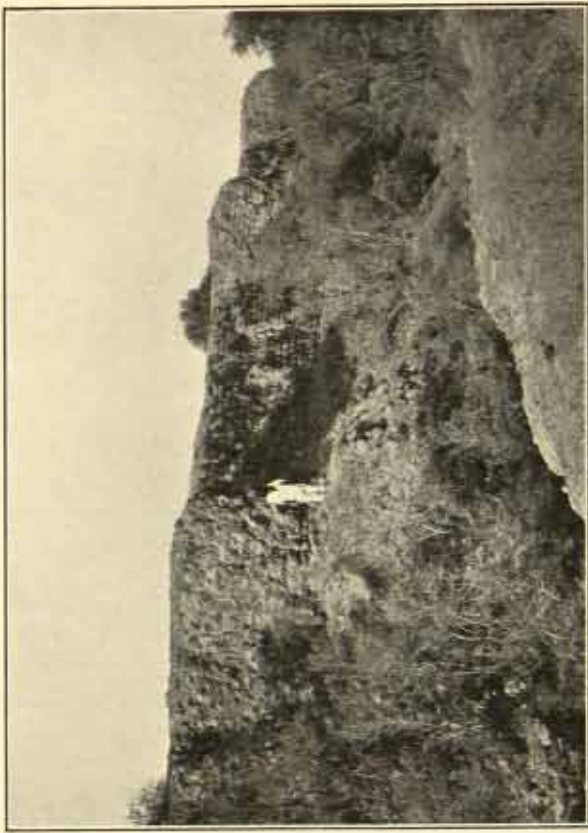
46. FORT OF GUSI-L-BURJĀN WITH SURROUNDING MOUNDS



47. EXCAVATION ON DEBRIS RIDGE, SHAHR-I-DĀQIANCS



48. VIEW TO SOUTH-WEST FROM TOP OF TUMP-I-KHARG



49. FORT OF QAL'A-I-KHIWĀHAR, TUMP-I-KHARG

tance during the pre-Muhammadan period of local history. Its position near the head of an extensive stretch of cultivated ground, which must always have enjoyed exceptional facilities for irrigation from the Halīl Rūd, may well have made it the chief place of Rūdbār, anyhow in early Muhammadan times. The notices of Rūdbār given by early Arab geographers (Iṣṭakhṛī, Muqaddasī) apparently do not contain any mention of particular localities in this district.³ It only remains to be noted that though two small *ziārats* are to be found near the southern foot of the great mound, this itself is shunned by the people of the neighbourhood from superstitious fears.

On April 10th a hot and tiring march carried us from Tump-i-Kharg up to where the canals irrigating the Rūdbār tract to the east of the Halīl Rūd issue. After about $2\frac{1}{2}$ miles we passed the hamlet of Āb-i-Sardū and near it two small mounds. One of them rises to 30 feet from a base some 80 yards in diameter. What pottery could be picked up on the surface showed the same types as that of Tump-i-Kharg. This was the case also with specimens of ceramic ware brought from two more mounds of small size near the hamlets of Amīrābād and Tumairi.⁴ They were sighted on the way to Tal-i-siāh, but the need of attending to the safety of our baggage would not allow me to visit them in person. All the way up to Tal-i-siāh, where the branch canals fed by the Jū-i-Shāhābād divide at the foot of a rocky hillock, much difficulty was experienced in getting our camels across a succession of water channels, all deep-cut and all requiring improvised bridging. Finally we reached the northernmost limit of Rūdbār at a point known as Qāsimābād, but uninhabited. There, at the foot of a steep ridge, the Jū-i-Shāhābād takes off from the river issuing from a narrow defile. Local tradition asserts the great antiquity of this canal, and no doubt with good reason; for without it the only portion of Rūdbār which even now, after centuries of invasions and insecurity, contains a more or less continuous belt of cultivable land, some 25 miles in length, would be a barren scrub-covered waste.

Before leaving Rūdbār I may briefly call attention to a general observation which presents an antiquarian and geographical interest. It is certainly curious that the only definitely chalcolithic sites we were able to trace along the Halīl Rūd, from Takkul to Tump-i-Qalātuk, are to be found on the lowest portion of the river course. Higher up, the numerous old sites represented by the mounds from Bijnābād to Hazār-mardī all bear distinct evidence of having been formed by debris deposits due to prolonged occupation from 'late prehistorical' times down to the pre-Muhammadan portion of the historical period. Then from

³ See Schwarz, *Iran im Mittelalter*, p. 255.

⁴ For specimens from the mound of Amīrābād, see Amir. 02-3, 09, 019; Pl. XXII, and Mr. Hob-

son's reference in Appendix A, p. 246, to slip-painted ware of the tenth century.

Tump-i-Kharg upwards the mounds display on their surface definite evidence of their having been occupied by settlements of the Muhammadan period, and, in the case of Tump-i-Kharg, by one existing during a considerable length of time with a fairly dense population.

These observations seem to point to a gradual shift in the position of the main settlements of the district from the terminal course of the river to ground higher up where an adequate supply of water could be assured with far greater certainty. Considering how closely all economic life in this region is bound up with irrigation, we may well feel inclined to connect that shift with physical changes which in the course of thousands of years affected the volume of the Halīl Rūd and thus also the conditions of irrigation dependent on it. But it is obvious also that no definite conclusion can be drawn from the observations above indicated until the stratification of particular mounds has been probed by systematic excavations. Such work alone, moreover, can be expected to answer the question as to whether prehistoric deposits may not lie deeply hidden below the level of the present alluvial surface of the ground.

SECTION III—THE BASIN OF JĪRUFT

The name of Jīruft is borne by a portion of the Halīl Rūd valley which, owing to the ample supply of water here carried by the river and the width of the valley bottom capable of irrigation, must have at all periods been a notable district within the province of Kermān. The defile through which the Halīl Rūd passes near Qāsimābād defines the southern limit of a riverine trough which extends in a northerly direction for about 35 miles to where the river is joined by several streams descending from the Jabal Bāriz and the high range above Sardūyeh and Rāyīn. The Halīl river is fed largely by the snows of the high Kōh-i-Lāleh-zār south of Kermān and of the neighbouring ranges, and affords here ample facilities for irrigation. In addition, water is available from *qanāts* tapping the drainage of the Khorgatu chain to the west of the valley and of the Jabal Bāriz on the east. It is hence not surprising to find that Muqaddasī and other early Arab geographers give much praise to the Jīruft district for the abundance and variety of its products and the manifold amenities of its chief town bearing the same name.¹

Nowadays, after centuries of political insecurity to which the south-eastern portion of the Kermān province has been exposed from both the Afghān and Balūch sides, the cultivated area has become greatly reduced. Much fertile land at the bottom of the valley has turned marshy through disastrous floods of the river, no longer controlled by embankments. But even so the contrast pre-

¹ Cf. for translations of full extracts, Schwarz, *Iran im Mittelalter*, pp. 240 sqq.

sented by Jiruft to the wastes of Rūdbār and its scattered semi-nomadic settlements was very striking. After passing for 8 miles stretches of fair grazing land by the river's right bank, we reached a practically continuous string of small villages. Their well-tilled fields extend by the side of groves of fruit-trees and date-palms all along the foot of an outlier of the Khorgatu range. The combination of a distinctly hot climate—the *thalweg* of Jiruft lies at an elevation of only 1,700 to 2,000 feet above sea-level—with adequate water for irrigation permits of two harvests in the year, and the first was just then proceeding in the wheat-fields.²

Evidence of early occupation was met first at the mound known as Tump-i-Ḥusainābād, reached after a march of about 14 miles near the village of Girkōh. The mound measures some 250 yards in diameter and rises to a height of about 20 feet. Being heavily encrusted with salt efflorescence, but little pottery could be seen on the surface. The few pieces of painted ware picked up were of the 'late prehistoric' type. A smaller mound close to the north bears on its top a ruined enclosure built with rough stones and apparently of no great age.

Seen from the village of Āb-i-garm, where we halted for the night, a high mound near the hamlet of Kunār-sandal to the north-west was a conspicuous feature in the landscape. Though the direct distance was less than 3 miles, it took us fully an hour and a half to reach it on the morning of April 12th, owing to constant detours caused by extensive stretches of cultivation and farther on by flood-beds and swampy depressions. The mound rises to 48 feet in the centre and measures 130 yards from north to south. But in continuation of it there stretches a low debris-strewn terrace to the south-east. The steep slopes of the mound and its much-fissured top are permeated with *sbōr*, or salt efflorescence, but in the ravines where erosion is active, much pottery was found exposed. Most of it was plain ware, red, buff, or whitish in colour of body. But painted fragments with black geometrical designs on red or grey ground were also picked up on the surface. Prehistoric occupation was proved also by numerous pieces of worked flints and fragments of small alabaster vessels.

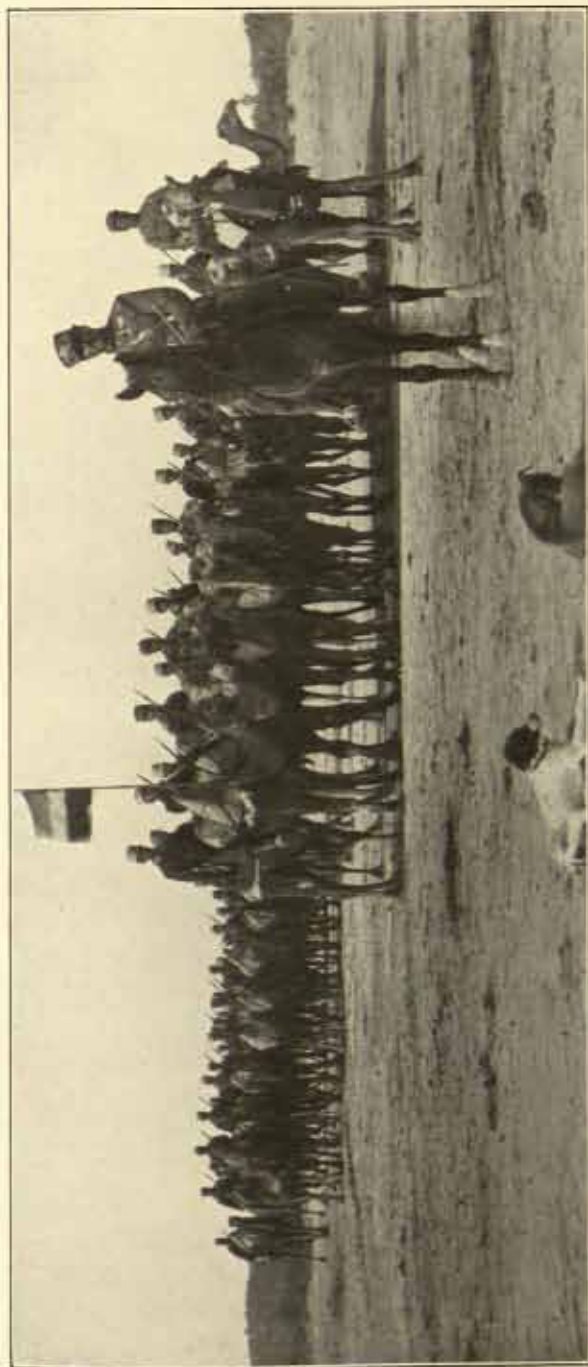
About a mile to the north-north-west there rises a second mound, close to the palm-leaf huts of Kunār-sandal and a *ziārat* of the Twelve Imāms. Its height is only about 30 feet, but in extent it is much larger than the first mound. All round the mound (Fig. 45) the much-decayed remains of a rampart could be traced, forming a continuous line of some 580 yards on the west, north, and east. On the south the circumvallation has disappeared for a distance of about 200 yards, probably owing to a marshy depression liable to floods passing close

² The great heat of Jiruft is specially mentioned by Muqaddasī, and the fertility of its land also by Iṣṭakhrī, cf. Schwarz, *loc. cit.*, p. 241.

to the foot of the mound. Whether the rampart was constructed with earth, stamped clay, or possibly with sun-dried bricks could not be determined. Including pottery-strewn ground stretching eastwards, the total length of the site from east to west measures some 620 yards. Here, too, thick *sbōr* covers the surface of the mound and makes it difficult to recognize smaller debris. With the exception of one painted potsherd, decorated in black on a grey body, the pottery found was all plain ware, of red, pink or buff body, often showing a whitish or greenish-grey slip. One piece, Kuns. 34, of rich terra-cotta colour, well burnished outside, is part of a bowl or cup, and looks early. Fragments of alabaster cups and a couple of worked flints pointed to occupation having started in prehistoric times. Some bronze fragments, and a small piece of lapis lazuli, were also picked up. It deserves to be noted in this connexion that at neither of the Kunār-sandal mounds was a single piece of glazed pottery found. On the much broken top of the mound, where the pottery was of the same kind as on the slopes, signs of a great conflagration could be seen, the ground being reddened to a depth of 5 or 6 feet.

From Kunār-sandal a ride of 5 miles to the north-west brought me across a succession of marshy beds, said to be impassable after rain floods, to the line of village lands which skirt the foot of a long low hill chain. On an outlying ridge, above the hamlet of Karīmābād, there stands a small but conspicuous mound known as Tump-i-Qal'a-kūchak. It rises with steep slopes to a height of fully 52 feet, and on its top, which is almost flat, measures 70 yards from east to west and about 65 yards across. What pottery could be found was all plain ware, of red, light buff, or grey colour. One red fragment was burnished on the inside. As neither glazed nor painted ware could be found, occupation during early historical times suggested itself.

The route onwards lay at some distance from the foot of the low hill-crest with which the glacis of the Khorgatu chain breaks off above the Jīruft trough. A series of small villages ensconced among date-palm groves and orchards was passed for some 8 miles. Together with the wide belt of fine wheat fields stretching down towards the river it made an attractive rural landscape, effectively framed by the high mountains which encircle the Jīruft trough on the north and west. Then, beyond the village of Zangiān, the route passed over a stony plateau furrowed by flood-beds, along which were to be seen camps of the nomadic Afshār tribe accustomed to visit Jīruft for winter grazing. From the top of the plateau we obtained a distant view over the wide head of the basin where the Halīl Rūd valley descending from the north-west meets the Rūd-i-shōr on a great stony peneplain. Finally we dropped down to the date groves and orchards of the small village of Hūkird. There our camp had been



50. ESCORT OF CAMEL-RIDERS, WITH THEIR COMMANDANT, SULTÂN ÂGHĀ HUSAIN ANSĀRĪ



51. TRIBAL TUFANGCHIS FROM WARĀWĪ



52. SIRDĀR HUSAIN KHĀN, CHIEF OF GEH, IN MIDDLE, WITH RELATIVES AND SLAVE RETAINER (ON RIGHT)

pitched within easy reach of the extensive old site, noticed by previous travellers, the survey of which was to close our season's work in the field.

Following from Hūkird the steep bank of an ancient riverine terrace northward for a mile the south-eastern extremity of a great debris area is reached. The site is locally known as *Shabr-i-Dāqianūs*, by the name which Muhammadan legend connected with the story of the Seven Sleepers ascribes to many a ruined site of Asia.³ It stretches, as the sketch plan (Plan 16) shows, for fully 2½ miles to the north-west along the edge of the terrace overlooking the flood-bed of the Halīl Rūd. Its greatest width from east to west is close on a mile. Near the south-eastern end of the site and adjoining the precipitous bank of the terrace I was able to trace the remains of a roughly quadrangular circumvallation, marked by much decayed ramparts, and of a wide fosse running outside three of the sides. Judging from the masses of small burnt bricks overlying the ramparts, solid brick walls must have formed part of the defences. This circumvallation, measuring about 470 by 400 yards, obviously represents a citadel, or *arq*, within the town.

Broken pottery and fragments of burnt bricks, together with rough stones evidently from decayed structures, thickly cover the ground within a radius of about half a mile from the outside of the fort, except on the side towards the river, where the narrow belt below the terrace bank is occupied by the fields and walled date plantation of Kehru hamlet. A portion of the debris-covered ground has been brought under cultivation by the people of Behkird, whose huts occupy mounds rising above the general level of the debris area at a distance of about 1,000 yards from the fort. Beyond this the cover of debris becomes gradually thinner; but pottery is found for a mile farther to the north-west, right up to another portion of the village of Behkird. Above this, by the bank of the river, rises a low ridge of gravel bearing the conspicuous *ziārat* of Shu'aib.

It is clear that the site is that of a considerable town, and from the abundance of decorated glazed pottery and relief-ornamented ware it can be concluded with certainty that it was occupied right down to the period of Mongol domination. Judging from the relative thickness of debris it appeared to me very probable that the area extending for half a mile or so to the north and west of the fort had been the most populous portion of the town. The rest of the pottery-strewn ground is likely to have been occupied by suburbs and isolated residences, such as are still to be found nowadays around most cities of Persia and India.

³ Cf., e.g., the designation of *Shabr-i-Dāqianūs* given to the ruined town of Khōcho, near Karakhōja in the Turfān basin, *Innermost Asia*, ii. p. 588.

Tomaschek, *Zur historischen Topographie von*

Persien (Vienna Academy Proc., 1883), p. 38 sq., identifies the site with the *Areiotis* of the Tabula Peutingeriana and seeks another explanation of the modern designation.

Proceeding about 800 yards to the west from the fort there is reached a drainage bed winding from north to south. On the nearer side of it stretches of bare clay seemed at first to suggest the position of some *enceinte* for the town proper, with ditches marking the line where building materials had been removed in recent years. But drainage channels and cultivation would not allow of such indications being followed with any certainty.

On a conspicuous ridge rising above the southern end of the cultivated patches (Fig. 47) I had a trial trench cut for a distance of about 80 feet. The excavation was carried to a depth of about 5 feet and was subsequently extended to the same depth by a shorter trench cut at right angles. It proved the top of the mound to consist of decomposed debris from walls built with mud bricks and resting on rough stone foundations. Mixed with the debris were found plentiful remains of pottery, comprising a great variety of relief-decorated and glazed ware. Fragments of glass vessels were also frequently met with. Of two large broken pots unearthed, one contained only earth, the other many pieces from unglazed water vessels bearing moulded decoration, such as were also abundantly represented among the potsherds strewn the surface over numerous patches of the ground.

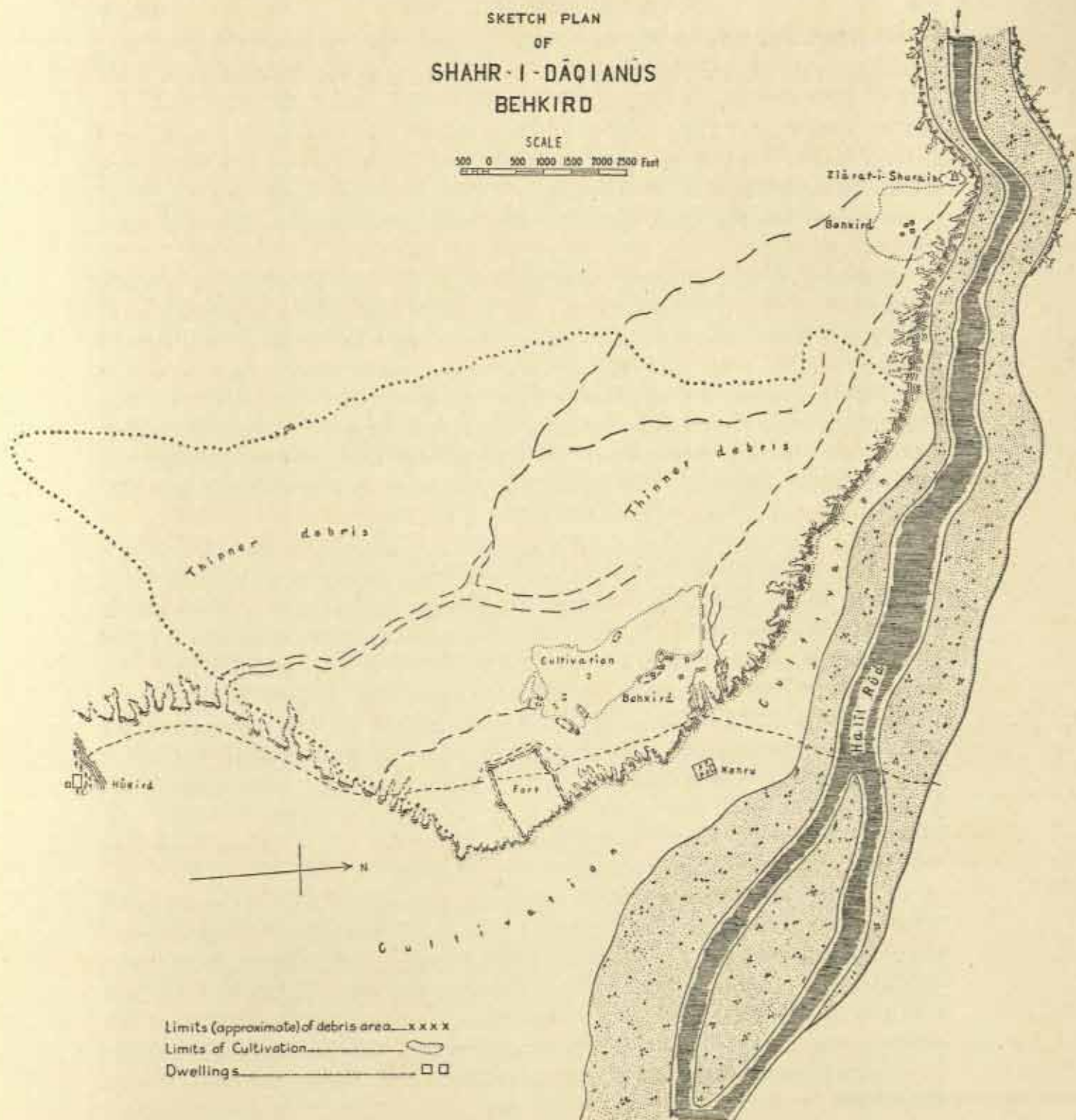
The ceramic remains brought to light from the trenches are so uniform in their types with those collected from the surface that there is no need to distinguish between them in the following brief notes intended to supplement the abstract account contained in Mr. Hobson's Appendix *A*, with special reference to the specimens illustrated in Plates XXI–XXIII.⁴ These notes, as elsewhere, are based upon the succinct descriptive inventory of the collection brought back from the journey of 1931–2, prepared by Mr. F. H. Andrews.

Taking first pieces of unglazed ware with moulded decoration (Pls. XXII, XXIII) from vessels of a slightly porous light buff clay, similar in fabric to the pottery still widely used in Persia for holding water, we note throughout the richness of the low relief of arabesques which almost completely covers the surface. This is usually divided into geometrically figured panels by bands or straps interlacing in a more or less complicated fashion. The panels and bands are filled with rich scrollwork based mostly upon ingeniously stylized floral forms. Between the luxuriant foliage well-drawn birds and other animals are introduced (Daq. 64, 69, 73, 556, 588, 635). The foliage scrolls of annular bands are interspersed with inscriptions in Kufic characters, which occur also on vertical bands of arabesques (34, 44, 52, 58, 587, 606, 612, 613, 623, 626, 637). Radiating vertical fluting with petal-like flutes is frequent, especially

⁴ Objects collected on the surface bear the 'site marks' Daq. 1–552; those from the trial trenches are marked Daq. 553–688; those purchased from villagers of Behkird, Daq. 0689–0697.

SKETCH PLAN
OF
SHAHR-I-DĀQIANŪS
BEHKIRD

SCALE
500 0 500 1000 1500 2000 2500 Feet



PLAN 16

on shoulders and bases (85, 589, 594). Among the figures introduced into scrolls the pair of confronting birds with human heads on 588 deserves special notice. Some indication of prevailing shapes is afforded by pieces like 12, 64, 76, 589, 612-13. An example among several moulds used for such ware is seen in 11. Various designs of handles are illustrated by 553, 554, 589, a thumb-rest being seen in 17, 645. Of incised ornamentation on unglazed pottery, less frequent and less elaborate, we see examples in 226, 231, 234, 236, 237, 240-1.

Unpainted glazed pottery, without decoration, was abundant in a great variety of brilliant colours, brown, purple, blue, and green being the most common. By the side of this plain glazed ware there are found also numerous pieces decorated with appliqué freehand modelling as seen in 469, 472, 479 (Pl. XXI). Specimens of glazed moulded ware are 468, 475, 482, 486, 495 (Pl. XXI). Glazed pottery decorated with graffito designs is abundantly represented, the glazes in rich greens, dark yellows, and browns often blending and running into each other. Varieties of such ware are shown by fragments 421, 427, 437-8, 444-5, 447, 451-2, 470 (Pl. XXI).

Among other types of painted glazed pottery illustrated by specimens in Plate XXI, the fine pieces 557-8 are of special interest on account of their bold arabesque design painted with lustre on a white ground. Lustre appears also in a number of other pieces (504-22) showing arabesques in tones of brown and green-yellow, of which 505, 517, 519 are examples. Pieces with bold patterns in white on a black or dark-brown ground, such as Mr. Hobson in Appendix *A* likens to a so-called Samarkand type, are illustrated by 268, 666. Pieces like 321, 328, 388 are specimens of a largely represented type of glazed pottery in which, over a light brown or reddish-brown surface, bands of black or dark brown are painted with rows of pearls in white slip. Related to this type in colouring is also the piece 420. Kufic inscriptions painted in thick dark-brown lines over white or pale buff ground are seen in 571, 575, 652.

Fragments of potter's 'spurs' for supporting vessels in the kiln (246-7) prove local manufacture, as do also a potter's stilt (488) retaining a streak of green glaze and the portions of moulds already mentioned. Among numerous pieces of glass, blown, moulded, or cut, the miniature flask 675 (Pl. X) with its body cut into twelve pentagonal facets, and the echinus-shaped flask, 674, of pale yellow-green glass (Pl. XXI) deserve special notice. Of glass fragments varying in colours from pale tones of green and straw to dark-brown and blue, Plate X shows 540, probably belonging to the foot, and 547, to the spreading base of a vessel. Among several glass beads there are two (690. m, n) with inlaid coloured eyes. It deserves to be noted here that the collection made at Behkird

comprises no remains of inlaid glass bangles such as were recovered at pre-historic sites.⁵

The ruined site which I have just briefly described, and which may conveniently be called after the village of Behkird, is undoubtedly that of the city which the early Arab geographers mention under the name of *Jīruft*, as the chief place of the whole district still called after it. Among the notices extracted and translated in Dr. Schwarz's very helpful work *Iran im Mittelalter*⁶ the following may briefly be reproduced here. Iṣṭakhrī notes of the city of Jīruft that 'it is two miles long, a chief mart for the trade of Khorāsān and Sijistān. The amenities of the cold and the warm land are here combined: there are to be had here snow⁷ and fresh dates, walnuts and lemons. Water is taken by the people from the Dīwrūd.⁸ Jīruft is very fertile, its fields are artificially irrigated.' Muqaddasī calls Jīruft 'the pleasantest of the provincial capitals, a treasury of fruits and cereals'. He expatiates on the amenities of the town and its environs, on its good bāzārs and baths, but also refers to its excessive heat, local diseases, mosquitoes and snakes. 'The town is fortified and has four gates. . . . The chief mosque is situated on the outskirts of the town, near the gate towards Bam, far away from the bāzārs; it is built with bricks and plaster. Drinking water is obtained from a river which sends its water through the streets and bāzārs, has a rapid flow and could work twenty mills. The city is larger than Iṣṭakhr. For the building of houses mud is used, for foundation walls stone.⁹ Snow [for the cooling of drinks] is brought from a distance. . . . The country outside the town is exceptionally pleasant.' As Yāqūt repeating the descriptive details of older geographers refers to Jīruft as a 'great and important' place, it may be concluded that the town was still flourishing at the beginning of the thirteenth century.

Conditions had sadly changed after the Mongol conquest of Persia; for there can be no doubt that it is the site of the Arab geographers' Jīruft to which Marco Polo refers when he describes his passage through 'the city called *Camadi*' on his journey from Kermān to Hormuz about A.D. 1272. After describing the route which must have taken him from Kermān past Rāyīn and across the high range of Sardūyeh down the valley of the Rūd-i-shōr, the great Venetian relates: 'After you have ridden down hill those two days you find yourself in a vast plain, and at the beginning thereof there is a city called *Camadi* which formerly was a great and noble place, but now is of little consequence, for the Tartars in their incursions have several times ravaged it. The plain whereof I speak is a very hot

⁵ Cf. above, pp. 109, 128, 129.

⁶ See pp. 240 sqq.

⁷ Persian officials stationed about Jīruft still get snow readily brought from Jabal Bāriz.

⁸ For this designation of the Halīl Rūd, cf. Schwarz, *loc. cit.*, p. 215.

⁹ For the correctness of this statement, see above, p. 152.

region; and the province that we now enter is called *Reobarles*.¹⁰ What the subsequent narrative tells us of the products and fauna of the country is in keeping with what is now to be found in Jīruft and Rūdbār.

Marco Polo supplies us with a definite record of the time when 'the city of Jīruft' began to fall into ruin and with an approximate indication of the period from which the remains now to be seen there on the surface may be assumed to date. But there is still the question to be answered as to how far back the occupation of the site may be traced. Apart from the notices of the Arab geographers, which prove the city to have flourished already early in the ninth century, help is afforded in this direction by the evidence of casual finds by the local villagers, who are accustomed after rain to search the site for coins, seals, and other small objects of value.

Among such finds as I was able to acquire by purchase the most useful are forty-one copper and two silver coins. The examination kindly made by Mr. J. Allan has shown that no less than thirty-two of the copper and one of the silver coins are of the early Abbasids (*circa* A.D. 750–850), among them one of Al-Wathik (842–7); three copper coins of the twelfth to thirteenth century; one silver Jalairid coin of the fourteenth century and one Timurid copper coin of about A.D. 1400, the remainder being unidentifiable. The marked prevalence of the early Abbasid coins is significant. Among a dozen of small stones cut as though for seals, two bear Arabic characters. Among the articles shown by the Governor of Jīruft, Sardūyeh, and Isfandāqeh, then staying at Hūkird, there was a stone seal showing a composite winged monster, perhaps meant for Muhammad's Burāq, and a bronze seal with the figure of a grazing cow. From the Behkird site there came also a small stone seal showing an Eros with bow, and another representing the figure of a man mounted on a monster. These Mīrzā 'Alī Muḥammad, Revenue Officer of the district, very kindly presented to me on our passage through Sabzawārān. Both seals show very late Hellenistic style.

Without extensive excavations carried to a considerable depth below the

¹⁰ See Yule, *The Book of Sir Marco Polo*³, i. p. 97. For the route followed by Marco Polo from Kermān to 'Camadi' cf. M. Cordier's note, *ibid.* i. p. 113, based on Major (now Sir) Percy Sykes's information, *Three Thousand Miles in Persia*, ch. xxiii.

The identity of *Camadi* with the 'town of Dāqianūs' appears to have been first recognized by Major R. M. Smith, R.E.; cf. Yule, *Marco Polo*³, i. p. 113. See *ibid.* also for the derivation of the name *Camadi* from Qumādīn, the designation of a suburb, as proposed by Houtum-Schindler, *J.R.A.S.*, 1898, p. 43.

In *Reobarles* Sir Henry Yule, following Pauthier,

was prepared to recognize the name of Rūdbār with the addition of Arabic *laṣṣ*, 'robber'. The explanation is attractive, as Marco Polo in a subsequent passage (i. p. 107) makes 'the plain' extend 'in a southerly direction for five days' journey' towards Hormuz, thus clearly indicating in it portions like Bulūk and Gulāshgird of the present Rūdbār. The designation of '*Rūd kbāna-i-duzdī*', 'the River-bed of Theft', borne to this day by a valley passed below Gulāshgird on the route to Old Hormuz (Mīnāb), seems to support the interpretation; see below, pp. 176 sq.

debris dating from medieval times, there is little chance of any reliable evidence being secured as to the earliest period from which the site was occupied. A small alabaster jar which was brought to Sir Percy Sykes as having been found higher up in the Halīl-rūd valley has been attributed by a competent authority on the strength of its shape to Greek workmanship.¹¹ But to base upon this the conclusion that the supposed oil flask was lost where Alexander's camp stood, and that the site of Jiruft was the scene of the famous meeting with Nearchos after the fleet had been safely brought to Harmozēia, or old Hormuz (Mīnāb), is a conjecture too hazardous for critical consideration.¹² All that can with reasonable assurance be assumed on topographical grounds is that Alexander's route to the capital of Karmania, whether it stood at the present Kermān, as is most likely, or farther to the south-west, must have lain up the Jiruft basin. For if it had led from Bampūr to Kermān via Bam it would have taken Alexander away from any place where Nearchos could possibly have joined him by five marches.

SECTION IV—TO KERMĀN AND ENGLAND

The burning heat experienced during our work in the Jiruft basin had sufficed to convince me that the time for archaeological exploration on this and similarly low ground had now passed. A variety of personal considerations applying both to my zealous companion, Dr. Fábri, and myself made it advisable for us to regain England for the summer months and to use them at the British Museum for the arrangement and examination of the materials recovered in the course of our explorations. The interval before the proposed resumption of work in the direction of the coast of the Persian Gulf was to be used by Surveyor Muhammad Ayūb Khān for topographical labours on higher ground. Kermān, owing to its elevation and the advantages offered by it as the administrative centre of the province, appeared the most convenient base for the Surveyor's operations in the hill tracts around, and the British Consulate at Kermān the best place of deposit for camp equipage and servants until my return from England.

With a view to reaching Kermān promptly, I chose the route leading over the Deh-bakrī pass to Bam, where we could secure motor transport by the road connecting Kermān with Sīstān. Thence our escort also could conveniently start for its return to the military head-quarters at Khwāsh. The caravan track across the Jabal Bāriz range via Deh-bakrī has often been followed by European travellers,

¹¹ Cf. Sykes, *J.R.G.S.*, 1902, pp. 942 sqq.; also Herzfeld, 'Pasargadae', *Klio*, viii. p. 25.

¹² Arrian's account, *Indikē*, xxxiii. 7, definitely indicates that the king's camp was at a distance of five marches from the port reached by the fleet.

The distance from the site of Behkird to Mīnāb by the nearest route via Bulūk-Gulāshgird-Rūdān, followed by me in November 1932, is not less than 200 miles.

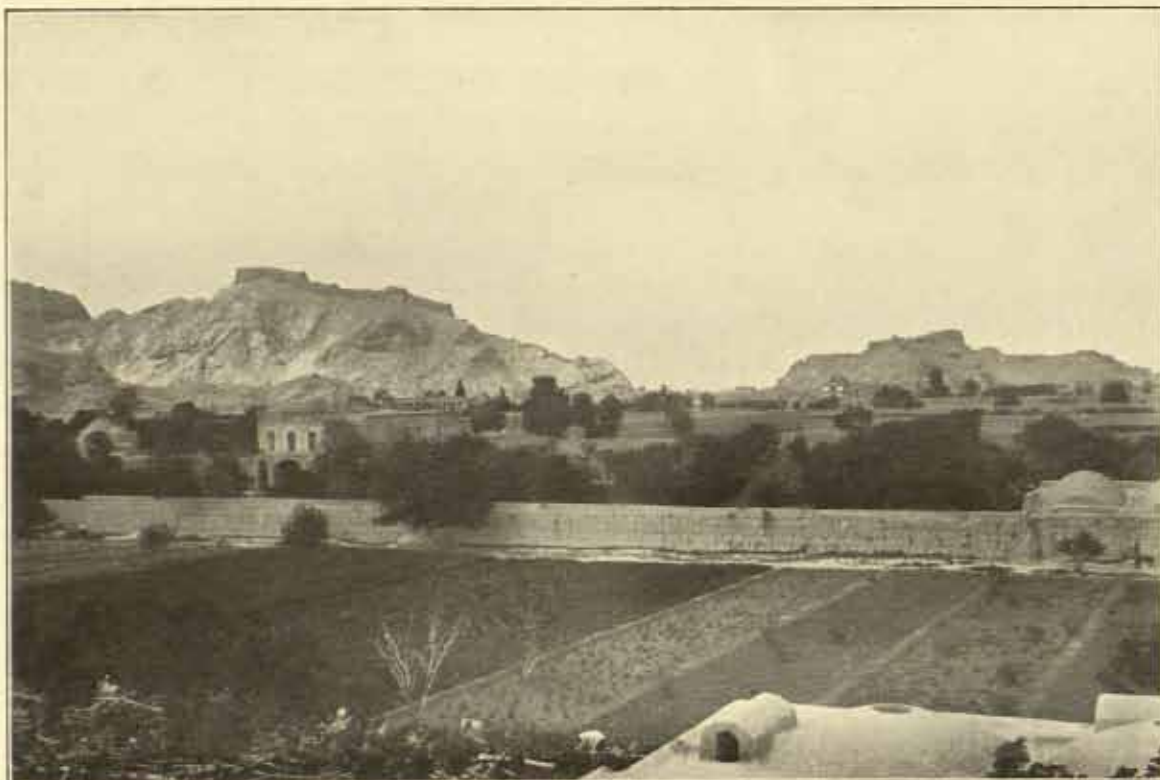
and is correctly mapped in the Survey of India Sheet No. 24. H. Hence no detailed account is needed of the three marches commenced on April 15th which carried us to Deh-bakrī. The succession of passes crossed, varying from about 5,400 to 7,700 feet in height, assured welcome relief after the intense heat of Jīruft, but the painful blisters which exposure to the sun had caused to the lips would not heal for some time to come. The verdure of the young wheat-fields and of the orchards near the villages passed, together with the ample tree growth on the hill-sides, was most refreshing for the eyes. The only old remains seen on these marches were two ruined *sarais* at each foot of the Deh-bakrī pass, said to date from Shāh 'Abbās's time and, no doubt, much appreciated by travellers when heavy snow in the winter renders the pass troublesome to cross.¹ Much decayed remains of a small fort, evidently of Muhammadan times, were to be seen on a steep knoll to the west of the pass.

From the pleasant village of Deh-bakrī, ensconced among shady groves of walnut and other fruit-trees, one march across a bare stony glacis brought us down to the walled village of Darzīn, and the next along the wide valley to Bam. The utter barrenness of the valley, broken only by *kārēz*-irrigated patches of cultivation at two villages, and the still more desolate appearance of the hill range overlooking it from the north, made me feel on this final march how near Bam lies to the great desert of the Dasht-i-Lūt. At another season it would have been an attractive task to search along its edges and in the wide arid tract of Bam-Narmāshīr to the south-east for old sites abandoned to the desert. Both physical causes and destructive human factors are likely to have left on that ground interesting traces of the changes they have worked since prehistoric times. For, just like Sīstān, its distant north-easterly neighbour, Bam and its Narmāshīr have always been exposed to inroads, productive of ruined sites, from Balūch and Afghāns or their ethnic precursors. But the places at which mounds and other remains were mentioned to me by local informants were too far away to be examined from Bam at this season.

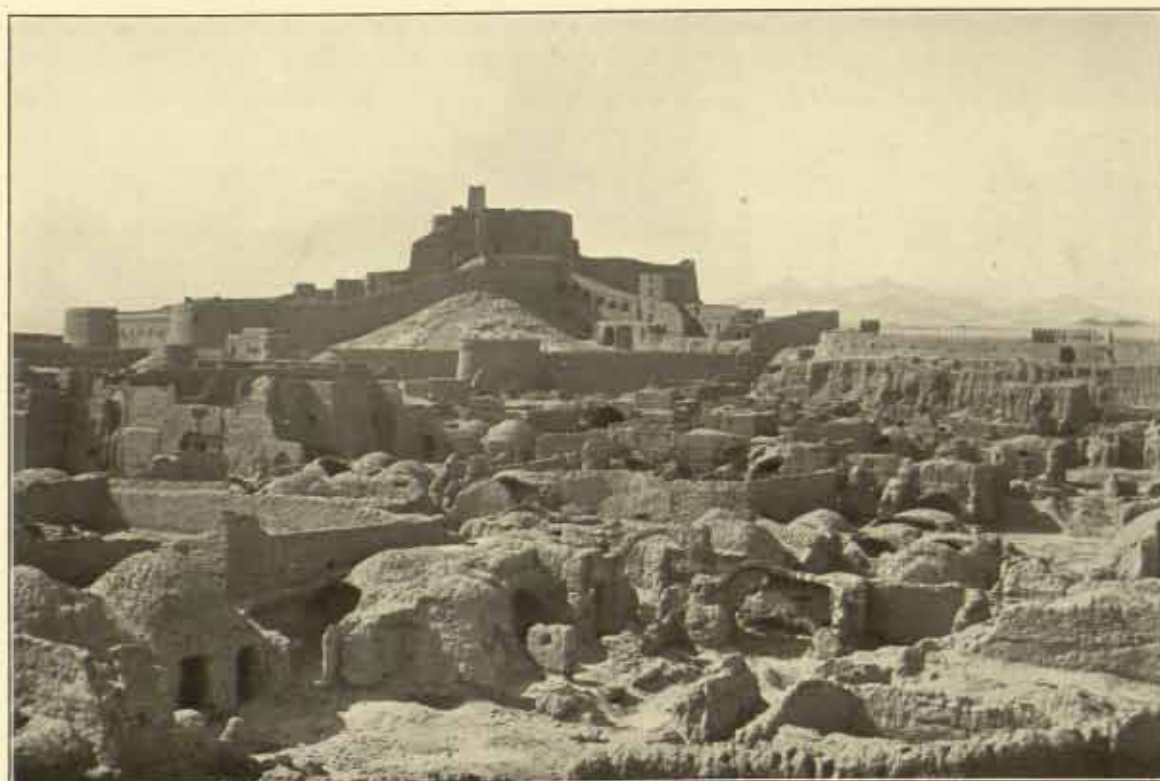
So, during the three days' halt which arrangements for transport imposed and which camping in a local notable's fine garden rendered pleasant, I had to content myself with visits in the immediate neighbourhood. The ruins of Fahrābād, scattered about 3 miles to the south-east of the town over a waste of bare clay and gravel, proved to be the remains of large residences of late Muhammadan times. They were now being gradually pulled down for the sake of the manuring earth secured from their thick mud walls. The small fort of Chihil-

¹ The ruined *sarai* to the south of the pass 'though nothing but a dark and miserable stable' afforded 'a most welcome harbour of refuge' to

Sir Frederic Goldsmid's party in January 1872, when belated; see *Eastern Persia*, i. p. 239.



53. RUINED CASTLES OF QAL'A-I-DUKHTAR, KERMĀN, SEEN FROM NEAR BRITISH CONSULATE



54. RUINED TOWN OF BAM, WITH CITADEL

chirāgh a couple of miles farther on was found to comprise a loop-holed enclosure with a decayed keep within. This ruin, too, is not likely to date back farther than the last two or three centuries. More interesting was a visit to the large *arq* of Bam (Fig. 54), once considered the strongest fortress of Persia. Since its abandonment in the last century it is slowly crumbling to ruin. The picture presented by the interior, closely packed with vaulted mud-brick houses in all stages of decay, was suggestive of the process through which many an ancient town of Īrān is likely to have passed before finally being reduced to a mere mound.

On April 23rd the arrival of lorries dispatched by the British Consulate from Kermān allowed us to leave Bam after a hearty farewell to the Sultān Āghā Ḥusain Anṣārī, the ever-obliging and helpful commandant of our escort. He, too, felt gladdened by the prospect of reaching a cooler climate and enjoying a good rest at Khwāsh after the eleven desert marches which still lay before him and his hard-trying men. There was nothing of interest to detain us on the road, which, as far as Mahūn, passed almost wholly over wastes of gravel and stone. But as our lorries, owing to constant break-downs, did not manage to cover the 140 miles or so to Kermān before 6 a.m. on the day following our start, we had ample time to become familiar with certain aspects of modern travel on the high roads of Īrān.

At Kermān we had a very hearty welcome from the late Mr. E. Richardson, the officiating British Consul, who, though seriously ill, had kindly arranged comfortable quarters near the Consulate for the accommodation of our party. This allowed us to make full use of our time for the careful repacking of our antiquities and for many other matters which needed attention before our start westwards. Visits to the Governor-General of the province and to the Commandant of the military forces were intended to assure needful facilities to Surveyor Muhammad Ayūb Khān for his reconnaissance surveys during the summer. In addition to their intrinsic topographical value, these surveys were intended to furnish guidance for the archaeological work I wished to resume by October.

The pressure of work necessary for the completion of our arrangements left little time for a close examination of the ruined fort of Qal'a-i-dukhtar (Fig. 55), which rises on a steep rocky ridge above Kermān town and forms a very conspicuous feature in the landscape. The suggestion of an exact survey did not meet with encouragement on the part of the local authorities. But since Dr. Fábri's and my own visit to the ruined stronghold did not disclose any definite evidence on the surface of pre-Muhammadan occupation this difficulty gave less cause for regret. Local tradition, reproduced in historical texts, attributes the construction of the castle to Ardashīr Pāpakān, the founder of the Sasanian dynasty. The massive remains of structures crowning the hill are built with

stamped clay or mud bricks, and must obviously have undergone many renewals during successive periods. Only systematic excavation among them could throw light on the question as to when the hill was first fortified.²

The ready help offered by the Consulate Staff allowed us to complete all arrangements within a week. On the morning of May 1st Dr. Fábri and myself, refreshed by our stay in the cool air of Kermān, were able to start with our six cases of antiquities carefully packed for Bushire. A day's stop at Isfahān under the hospitable roof of Mr. E. Bristow, the British Consul, permitted enjoyable glimpses to be gained of the monuments bequeathed by a great period of Persian architecture. Thence a delightful journey by an excellent motor-road through interesting scenery brought us on May 4th to Persepolis, where the kindest welcome on the part of Professor E. Herzfeld awaited us.

Under the guidance of this distinguished scholar and excavator, the greatest living authority on the monuments and history of ancient Īrān, we were privileged for two days to inspect the remains of this magnificent site, perhaps the most impressive in Asia. It has rewarded his devoted labours of years with a constant succession of highly important new discoveries. On May 7th we passed through Shīrāz, and two days later, after crossing in comfort the rugged hill ranges once so trying to travellers, arrived in Bushire. There we were welcomed with kindest hospitality by the late Colonel H. V. Biscoe, British Political Resident in the Persian Gulf. The immediate passage through the Persian Customs of our antiquities for shipment to the British Museum could not be secured during our short stay. But some weeks later the strenuous efforts made by Captain (now Major) E. Gastrell, the British Consul, Bushire, achieved this, to us important, concession as granted under the original orders sanctioning my explorations.

On May 11th we were able to embark on the British India Mail Steamer *Varela* for Basra, whence the convenient service jointly organized by the Iraq, Syrian, and Turkish Railways brought us by May 20th to Constantinople, and thus back to Europe. Of the very instructive days I was able to spend at the great museums and libraries of that ancient link between the West and Near East I cannot forgo making grateful mention.

² The sherds of glazed and relief-decorated ware, picked up on the slopes of the hill, were of types represented also at the site of Behkird. For specimens see Dukh. 2, 4, 6, 15; Pl. XXII. Tar.

3, *ibid.* is a specimen of similar glazed pottery found at Tarikistān, a debris area passed 3 miles beyond Darzīn on the way to Bam.

CHAPTER VI

FROM KERMĀN TO BANDAR ABBĀS

SECTION I—FROM KERMĀN TO TAL-I-IBLĪS

MY stay in England, extending over four months of the summer of 1932, enabled me to make arrangements at the British Museum for the accommodation and preliminary examination of the collection of antiquities brought back from the preceding season's work on Persian ground. Incidentally it also allowed me to pass through the press a comprehensive account of my three Central-Asian expeditions.¹ Dr. Fábri, after bearing the main share in the practical tasks connected with the first arrangement of our archaeological finds, rejoined in the autumn his post at the Leiden University.

Returning myself to Persia in the course of October via Istanbul and Baghdad, I was able to pay a brief visit to Tehrān and with the kind help of Sir Reginald Hoare, H.B.M.'s Minister, personally to explain the objects of my resumed tour, including the topographical work carried on in connexion with it, to the Ministers of Foreign Affairs, Public Instruction (including Antiquities) and War, as well as to the Chief of the General Staff. On my subsequent passage through Isfahān I was fortunate enough to meet Monsieur A. Godard, Director of Antiquities in Irān, and to secure his friendly interest in my tour. He very kindly offered to facilitate it by arranging for a representative of the Ministry of Public Instruction to accompany me.

By the close of October I rejoined my camp at Kermān. There I found Surveyor Muhammad Ayūb safely arrived from the extensive tours of topographical survey he had carried out during the summer and early autumn, often under conditions involving considerable physical hardships, in the hills to the north-west of Kermān as well as in the high valleys to the south and south-east. In accordance with my instructions my indefatigable Pathān assistant had in the course of these tours kept a careful look-out for any old sites and had, wherever such could be recognized, collected such specimens of pottery and similar relics as could be picked up on the surface. At almost all of the numerous old localities thus noted by him the specimens brought back for my inspection indicated occupation down to medieval Muhammadan times. Hence there was no induce-

¹ *On Ancient Central Asian Tracks. A Personal Narrative of Archaeological Explorations in Turkestan and Westernmost China* (Macmillan & Co., 1933).

ment for me to diverge from the main programme planned for my resumed explorations. These were intended to take me first through the south-eastern parts of the Kermān province to the entrance of the Persian Gulf, and subsequently along the shore of the latter into the southernmost portion of Fārs, the ancient Persis. Consideration for the trying climatic conditions to be experienced along the coast, except during the short winter of that region, made me anxious to avoid any delay in my start southward beyond that which the difficulty of securing transport imposed.

Hence no time could be spared for visiting any of the ruined sites the Surveyor had traced in the Zarand and Kōhistān tracts to the north and north-west of Kermān. But at a number of localities in that direction he had noticed cairns of the type so frequent in Balūchistān and Makrān, marking deposits from pre-Muhammadan burials, and the convenience of access offered by the track towards Zarand being just practicable for cars allowed me at two points to verify the correctness of the Surveyor's diagnosis by a day's excursion from Kermān.

After driving about 10 miles we passed the isolated rocky hill known as *Qal'a-i-dukhtar*, 'the Princess's Castle', rising like an island to a height of about 350 feet above the bare alluvial glaciis. Its extremely precipitous sides are crowned on the top with decayed walls of sun-dried bricks. Other walls of very massive construction protect approach from the flat ground on the north to the very narrow ravine which, flanked by almost vertical cliffs, appears to have provided the only means of access to the top of the hill. Ascent in this ravine or rift proved impracticable for us, as the masses of masonry which once carried a footpath had fallen away, and the rock faces on either side afforded no foothold.

The walls flanking the mouth of the ravine are extended for some distance over the level ground in front of it, and being joined by a cross wall containing a gate they form a kind of outwork. These walls are broken at regular intervals by arched niches with large loopholes opening towards the outside. The very ruinous condition of this outer enclosure and the care with which the great natural strength of the fastness has been increased by defences clinging to precipitous cliffs point to early construction, probably in Muhammadan times. But the few pieces of coarse pottery and plain glazed ware which were picked up within the outwork near the hollow marking a former well, furnished no chronological clue. The name *Qal'a-i-dukhtar* is to be found elsewhere also in Persia applied to hill strongholds of evident antiquity.² But nowhere did I learn

² Ruined forts and natural fastnesses known by this name were noted by me in Fārs at Fīrūzābād, Jahrum, north of Fasā, Iṣṭahbānūt, &c. The same designation is applied also to the hill fortress rising

of a legend or tradition to account for it such as has clung since early times to the Kiz-kurghān, or 'the Princess's Tower', of far-off Sarīkol. The corresponding Turkī designation has its traditional explanation in a story attested already by Hsüan-tsang.³

Proceeding for another 12 miles along the foot of a rugged hill chain the large village of Sar-i-āsiāb was reached. From a short distance beyond the northern edge of its orchards there extends a large area with clusters of burial cairns scattered over the stony waste descending from the foot of the hills. In one group counting some eighteen low roughly built-up stone heaps, three *dambs*, to use the term applied in Makrān, were opened. In all of them fragments of human bones turned up, and in one also two large earthen pots of coarse make. Both showed breaks which had occurred in antiquity before they were deposited with the scanty remains of bodies exposed to birds and beasts. About 5 miles farther to the north the stony glacis stretching between the villages of Hut and Chāh Darūt shows another large area of burial cairns. Those examined in a group to the south-west of the track measured 13 to 14 feet in diameter with an average height of 2 to 3 feet. All of the four cairns here cleared contained scanty fragments of bones. In two there was found also a large jug of poorly levigated clay, about 8 inches high and 5 inches across where it bulged out above the foot. Both jugs had a spouted mouth with a handle descending from it along the long neck. The imperfect burning in both vessels suggested that they were made as funerary furniture and not for actual use. Here, as in the case of most of such cairns, there was no definite indication of date. But the great number and extent of similar burial-grounds noted by the Surveyor in the Zarand and Rafshān tracts makes it obvious that they belong to the pre-Islamic period or to that immediately following the Arab conquest, while Zoroastrian creed and practice still retained their hold on the mass of the population in the Kermān province.

The difficulties about securing adequate transport for our move to the south proved unexpectedly great. The trouble which it cost to overcome them and to make other needful practical preparations effectively prevented my gaining a closer acquaintance with the surroundings of Kermān town, and the physical conditions determining its importance as a provincial centre. I should have to regret this more if fairly detailed accounts of Kermān were not available in the publications of modern visitors, especially of Sir Percy Sykes, who

above Kermān town, the origin of which popular belief attributes to Ardashīr Pāpakān. Its earliest occupation may well date back to pre-Muhammadan times; see above, pp. 159. sq.

³ Cf. *Serindia*, i. pp. 72 sq. As the population

of Sarīkol is of Iranian stock, though accustomed to the current use of Turkī besides its own tongue, there can be little doubt about the name *Kiz-kurghān* reflecting an earlier local designation equivalent to Qal'a-i-dukhtar.

spent several years there as British Consul and made full use of his special opportunities for the study of Kermān's past and present.⁴ There seems good reason to assume that Kermān has been since ancient times the administrative centre of the province which the classical accounts already know as *Karmania* and with which it still shares the name. The descriptions given by the early Arab geographers, especially Muqaddasī, of the capital of the Kermān province, distinctly support this location, even though they refer to it by the name of *Bardsīr*.⁵ This term, meaning 'the cool region', is applied by the early Muhammadan writers to the whole of the elevated portion of the province, enjoying a more temperate climate, and not merely in a restricted sense, as at present, to the broad plateau tract stretching along the northern foot of the high mountain range culminating in the Chihiltan, Chahār-gumbaz, and Lāleh-zār peaks.

It was to this plateau that at last by November 6th I could make my start southwards with transport composed mainly of donkeys, and with a small escort provided by the military authorities at Kermān. It comprised a dozen conscripts on foot and four mounted men under Naib Akbar Aḥmad Āmarī, an officer at one time employed in the South Persian Rifles under Brigadier-General Sir Percy Sykes. The direction of this initial move was indicated by the report Surveyor Muhammad Ayūb Khān had brought me from his previous tour in Bardsīr of a large mound there known as *Tal-i-Iblīs*, which, as the specimens of painted pottery picked up by him unmistakably showed, marked a site of chalcolithic occupation.

Two marches covering some 46 miles brought us first across the valley trough of Kermān, partly cultivated, and then through a much broken hill chain to the cluster of villages known as Mashīz. It is situated on the lower course of the Lāleh-zār river and with its land mainly irrigated from numerous *qanāts* is the chief oasis of Bardsīr. From its centre, where the residence of Bahādur-ul-mulk, a wealthy landowner, afforded us hospitable shelter, I proceeded on November 8th to inspect the extensive debris area known as the 'old town of Mashīz', situated about three-quarters of a mile to the north of our quarters. It occupies the top of a low terrace, formed, as the examination of its sides dug down for manuring earth showed, of natural deposits of alluvium. This terrace stretches for a distance of about 600 yards to the north-west of a ruined tomb known as Ziārat-i-Pīr Jasūs, and for some 300 yards to the south-

⁴ See Sykes, *Ten Thousand Miles in Persia*, cc. xvi, xvii. For references to earlier accounts cf. Curzon, *Persia*, vol. ii. p. 244, note 1.

⁵ For notices excerpted from those writers see Schwarz, *Iran im Mittelalter*, pp. 220 sqq., where

the reasons against placing the provincial capital named by them at Mashīz within the present Bardsīr, as had been suggested, are duly pointed out.

east of it. Owing to the digging operations referred to, it has been reduced to a width varying from 60 to 120 yards. Broken bricks and rubble from completely decayed structures cover the surface throughout. The frequency of glazed pottery and the total absence of unglazed painted ware clearly indicated occupation within the historical period, probably down to medieval times. Of coin finds which might have helped to determine a *terminus ad quem* I could not learn.

When we set up the plane-table to fix the position of the site with reference to the quarter-inch survey made of the neighbourhood by Muhammad Ayūb Khān on a previous tour, and to prepare a sketch plan of the site, I was informed by the officer in charge of the escort that under the instructions received by him no survey work of any kind was to be allowed. This obstructive order was manifestly contrary to the views expressed by the authorities at Tehrān and to the attitude previously shown towards our work, both during the explorations in Balūchistān and on the Surveyor's preceding tours within the Kermān province. Representations made to this effect proved in vain, and the Naib, while refusing to produce the alleged instructions, insisted on being handed the plane-table sheet showing the preceding survey of this area. This was done under protest. No time was lost in reporting the unexpected difficulty thus raised to the British Minister at Tehrān, as well as to the Director of Antiquities, with the result that by the time of our arrival at Bandar Abbās a month later the alleged instructions prohibiting survey work were disavowed and the seized plane-table sheet returned to me. But since the representative of the Department of Public Instruction, whose promised assistance might, perhaps, have obviated such objections, failed to join us, our work continued meanwhile to be hampered in this and, as it soon proved, also in another essential direction.

On November 9th we set out for the small village of Haidarābād to the south-east, whence the site of Tal-i-Iblīs, or the 'Devil's Mound', could be conveniently approached. After passing for about 2 miles through land cultivated from underground canals, the bed of the Lāleh-zār river was crossed. What little water it held was said to be derived from the discharge of irrigation channels. On the scrub-covered waste beyond, the track led past several ruined hamlets which, with the land around, had been abandoned owing to water failing from their *qanāts*. Almost equally distressing were conditions at the small village of Haidarābād, reached after a total march of 8 miles. Its underground canals had ceased to carry water and the few families of cultivators still clinging to their homes were dependent for water on a single well. The dying trees in the large orchard where our camp was pitched vividly recalled sights

seen by me far away in Chinese Turkeṣtān in places on the edge of the Takla-makān, where cultivated ground had in recent times been abandoned to the desert.

The first inspection of the Tal-i-Iblīs site (Plan 15) made the same day completely confirmed the impression I had gained from the Surveyor's report and previous mapping. The mound was found to be situated almost due south of Ḥaidarābād at a distance of close on 4 miles. It rises above an alluvial plain, now utterly waterless, covered with light drift sand, which scanty growth of thorny scrub has gathered and fixed here and there into small rudimentary cones. In places shallow dry channels mark the course of drainage from rare rain floods. Quite close to the east of the mound there passes a well-marked dry river-bed, some 100 yards across, descending from the foot-hills visible to the south through which the Lāleh-zār river debouches into the Bardsīr trough. Over an area surrounding the mound, which subsequent measurement showed to extend for about 1,100 yards from north to south and for a maximum distance of some 740 yards west of the old river-bed, fragments of ancient pottery including painted pieces as well as worked flints and fragments of alabaster vessels, all marking prehistoric occupation, could be picked up on patches of ground clear of drift sand.

The mound (Fig. 55) was found to rise to a height of 37 feet from the present ground-level around. It measures about 110 yards from north to south and 95 yards across where widest; but it may have been considerably reduced by prolonged digging for manuring earth. The latest evidence of such digging was afforded by large holes and cuttings seen on the slopes and particularly at the south-western foot. Here successive layers of earth containing pottery debris, rubble and animal bones, interspersed with layers of ashes, could be clearly made out. Smaller holes on the slopes looked as if dug by seekers for treasure, and from one of these on the north a large jar was said to have been extracted a year or so before. As pieces from unpainted large vessels as well as fragments of bones, apparently human, were found exposed on the northern slope, that portion of the mound suggested itself for a trial excavation.

To this the officer in charge of the escort, who had kept his eye on us at this preliminary inspection, agreed after hesitation on condition that the digging would be limited to a small depth. The keen interest shown by us in the surface finds seemed to have temporarily removed at least some of the doubts and suspicions he evidently entertained then and afterwards as to the 'real' purpose of my tour. But when on the following morning I had started the opening of a narrow trench at the place just indicated with the few labourers, less than a dozen, that could be collected at Ḥaidarābād, the work had to be stopped at the

peremptory order of the Naib before the men had removed more than about 8 or 10 inches of soft clay or dust covering the slope. In view of this unwarranted interference and the humiliation it incidentally involved, I found it necessary to forgo further attempts at trial excavations until the effect of the representations addressed to Tehrān could make itself felt. Judging from the official attitude previously observed at Kermān, a return there appeared to involve the risk of indefinite delay. This might have meant our reaching the mouth of the Gulf too late for the programme of field work to be carried out along its trying coast during the short period of comparatively favourable climatic conditions. So I decided to continue the journey there and reluctantly to restrict myself to surface observations until arrival at Bandar Abbās. There I could hope for a change of escort and the removal of the obstruction imposed from Kermān.

The materials we were able to collect at Tal-i-Iblīs are fortunately ample enough to prove that the site marked by the mound and the debris area around was occupied during the chalcolithic period and during that only. This is proved on the one hand by the type of the painted pottery remains and on the other by the total absence on the mound or in its immediate vicinity of any glazed ware or other objects that could be attributed to later times.⁶ The pottery, with the exception of a few coarse fragments which look hand-made, was all wheel-made. The body varies considerably in colour, various shades of cream, light pink, grey, and brown being represented. A fine well-levigated clay is found in a number of dark-grey pieces and in the fragment Ibl. 142 (Pl. XXIV) of a thin-walled jar of deep terra-cotta colour. Some pieces of grey and cream ware (105, 167, 184) belong to small vessels having a ring foot. Another and larger piece (104; Pl. XXIV) belongs to a flat-bottomed base. The painted designs are practically all monotone and applied without a slip. The colour used for the patterns varies from black to brown and brownish pink, the difference being probably due to the varying strength of the paint. In one fragment (121; Pl. XXIV) part of the design appears in a dark brown and another part in a reddish brown, but no polychrome effect appears to have been intended.

The designs, all geometrical, show remarkable variety in their motifs, as shown by the specimens reproduced in Pl. XXIV. Simple wave lines, whether by themselves (87, 132) or combined with other elements (139), are common; so also are zigzags, as in the design of 40, 90, and hachures (52, 124, 141, 142). More elaborate patterns are formed with lozenges (58, 95, 168, 175), mostly hachured, or triangles placed between or outlined by plain bands (16, 108).

⁶ A few fragments of glazed pottery, evidently quite late and of coarsely incised ware, were picked up to the east of the river-bed and near the southern edge of the debris area.

Of particular interest is the decoration in 91, where a kind of 'fringed fan' is introduced in a way very common in the funerary ware of Khurāb and Dāmīn,⁷ and also found in chalcolithic pottery from Dārāb sites in the Persis. It is significant that this motif was here also, as in the pieces just referred to, used on the inside of an open bowl.

Owing to the small size of most fragments little can be said otherwise as to the shapes of the vessels to which they belonged. But 173 evidently formed part of a thin-walled cup, bulging out towards the bottom, a shape well attested in chalcolithic ceramic ware from Balūchistān sites. The small fragment 124 (Pl. XXIV) is of interest as its outer surface, decorated with a hachured pattern, shows distinct burnishing. Of the fragments of worked alabaster it may suffice to mention that 50 formed part of a fairly large flat-bottomed cup or bowl, as did also a similar piece (69) of a dark-grey stone. Among the numerous worked flints, all small blades or borers, 4, 65, 114 (Pl. XXX); 22 (Pl. XXIV), show finger-holds at one end. It remains to be mentioned that the piece of a whetting-stone with a string hole at its end, 72, and a few small shapeless fragments of copper or bronze were also picked up on the surface.

The fact that the site is definitely proved by plentiful surface finds to have been occupied by a settlement of chalcolithic age, invests the dry river-bed passing close to it on the east with special interest. There can be no doubt on looking at the map, Sheet II, that this bed must represent either a former branch or an earlier course of the Lālehzār river, which debouches from the foot-hills at a point about 4 miles to the south-east. Judging from the width of the bed, the latter assumption seems more likely. With the exception of a couple of glazed fragments referred to above, no potsherds or other debris were to be found to the east of the bed, which suggests that already in ancient times it had marked the limits of the settlement in that direction.

It is impossible to make sure whether the abandonment of the Tal-i-Iblīs area to the desert was caused by a shift of the river course or a general diminution since prehistoric times of the amount of water available in the river for irrigation. But it deserves to be noted that a plot of ground about 300 yards in length extending to the southern edge of the debris-marked area showed signs of having been tilled at a time not very distant, though apparently not within living memory. The water for this cultivation could have been obtained only from occasional rain floods or else from the old canal which Muhammad Ayūb Khān in the course of his previous survey had observed as once carrying water from the Lālehzār river to the abandoned village of Qal'a-i-Nārp some 11 miles to the south-west of Nigār. Local tradition, as heard by the Surveyor,

⁷ See Dmn. B. 112, 121, Pl. XII; Khur. B. ii. 155, 157, Pl. XIV.

remembered the drying-up of this canal and also its subsequent replacement by *qanāts*, which have also dried up more recently. I could find no trace of any *qanāts* to the south of the Tal-i-Iblīs area.

SECTION II—FROM BARDSĪR TO GULĀSHGIRD

The journey resumed on November 11th took us south across the high range culminating in the Lālehzār peak, 14,350 feet, to the elevated region in which the Halīl Rūd gathers its head-waters. It offered little chance for observations of antiquarian interest; but as it led over ground in parts but inadequately mapped, a succinct account of our marches and of the height records taken along it may be given here.¹ Our first march led to Nigār, a fairly large village (6,950 feet above sea-level), situated in a wide depression in which underground canals fed by the drainage of outliers of both the Lālehzār and Jūpār ranges assure irrigation. But the ground crossed on the way from Haidarābād was throughout a scrub-covered sandy waste, much of it occupied by typical 'tamarisk cones' such as had become so familiar to me between the glacis of the Kun-lun and the edge of the great Taklamakān desert.

This impression of being back again in a Central Asian region was maintained on the next march, which carried us south-east over a bare gravel *dasht* to the scattered hamlets of Qariat-ul-'Arab (7,700 feet). A small mound, known as Dar-kōh and situated above a little stream which is fed by springs of 'black water' (the familiar *kara-su* of Turkestan), and by the overflow of *qanāts*, proved by its scanty pottery to mark a village site of Muhammadan times. From the open glacis crossed on the way the high ranges of both Lālehzār and Jūpār, already snow-capped, were in full view.

From Qariāt-ul-'Arab our route turned south and, ascending first over a gentle gravel glacis and then between bare rugged hills, crossed the range which farther east culminates in the Kōh-i-hazār peak (*circa* 14,500 feet). The pass was reached beyond a ruined *sarai* and brackish well by a fairly easy ascent, and proved to have an approximate elevation of 10,150 feet. It is known as Gudār-i-Shīrīnak from a hamlet of conical mud huts situated in a broad valley separating the two ranges and occupied mainly by graziers. While halting here, at an elevation of about 9,150 feet we experienced a light fall of snow accompanied by a violent gale, and a night temperature falling well below freezing-point. Then on November 14th a long march of some 26 miles carried us first

¹ Observations for height were made, as throughout my journeys in Southern Persia, with four Aneroids and a Hypsometer. The results were computed and corrected to sea-level, as determined

at the base station of the British Consulate, Bushire, by the Office of the Director, Geodetic Branch, Survey of India, Dehra Dun.

over a succession of steep spurs to the pass of Gudār-i-Sang-i-ishk, where the watershed on the Lāleh-zār range was crossed at an elevation of 10,150 feet, and then down a valley fairly watered and much frequented during the summer months by nomadic graziers, to the large village of Rābur (7,800 feet).

With its fine orchards producing abundance of fruit and an extensive area of cultivation irrigated by streams from the mountains, Rābur is by far the most attractive place and the only one of any importance passed by us on this journey through Kermān. That the oasis has existed since early times can be safely assumed. But the Tal-i-Khushkeh, the only mound I could learn of, situated near the south-western edge of the agglomerate of hamlets collectively known as Rābur, showed no evidence on the surface of the site having been occupied before the historic period. It measures about 150 yards from north-west to south-east, with a maximum width of some 60 yards, and rises to 15 feet where highest. Its size has evidently been much reduced by digging for manuring earth. What potsherds were picked up below the banks thus exposed and on surrounding fields were of coarse plain ware, with the exception of a couple of glazed fragments and a flat-ribbed piece, which may be pre-Muhammadan.

From a day's welcome halt at pleasant Rābur, where fresh donkey transport had been readily obtained, we turned to the south-east in order to gain the plateau of Isfandāqeh. Our march on November 16th led first down the stream of Rābur and then over a scrub-covered alluvial plateau. From there a distant view was gained of the numerous hamlets nestling at the foot of the mountains and girding the main oasis of Rābur on the north and north-west. They obviously owe their existence to the increased moisture received by the high range behind and the drainage descending from it. Some little cultivation was found again at Maidān (6,250 feet), in the valley of one of these tributaries of the Rābur river. The semi-nomadic occupants of the hamlet, belonging to the Sulaimānī tribe, were preparing to move down to their winter grazing in Jīruft. Small intermittent patches of cultivation, met on the next day's march for some 8 miles down by the same stream, were already deserted. Then the track led away from the stream, across utterly barren low ridges and waterless ravines, to the small open plain of Padamābād (5,550 feet) with some fields and an old orchard. The few dwellings at the site were abandoned and in ruins.²

A long and tiring march on November 18th took us on its first half through

² In the quarter-inch Survey of India Sheet No. 24. G, the Rābur river is conjecturally sketched as turning to the east some 12 miles below the position (not marked) of Maidān, and thence joining the Halīl Rūd at some point far away to the

north-east of Isfandāqeh. In reality the Rābur river continues its course to the south and joins the Rūd-i-Khārān to form the Halīl Rūd at some point well above where we crossed the latter on our way to Isfandāqeh.

a maze of utterly bare ridges and ravines and then across a troublesome pass down to the deep gorge in which the Halīl Rūd has cut its way towards the head of the Jīruft trough. From afar we had sighted this head in April on our way to Bam. Then leaving the cliff-bound river gorge an easy ascent brought us to the entrance of the great plateau which forms the tract of Isfandāqeh. The long hill chains encircling it must have provided since the earliest times attractive grazing-grounds for nomadic tribes like the present Mehnī. But in the central part of the plateau adequate subsoil drainage caught by *qanāts* has made cultivation and permanent settlement possible. At the hamlet of Daulatābād (5,750 feet) we arrived at the seat of the hereditary landowner of Isfandāqeh, and his recommendation brought from Kermān assured us there both hospitable welcome and local guidance.

A day's halt was needed to rest the hard-tried transport animals, and I used it for the inspection of the old remains which had been mentioned to me at Kermān by that intelligent 'lord of the manor'. The Tump-i-Gabarrhā proved, indeed, to be what the name had prepared me for, a site of burial cairns at the foot of a rocky spur, about 2 miles south-east of Daulatābād. But only scattered large stones remained to mark the spot. A party of nomadic tribal people had chosen it for their camping-place, and perhaps induced by something that had raised hopes of 'treasure', had upheaved the cairns, and subsequently used the larger stones to fasten down their tent-walls. Only two small cairns remained recognizable. Then, riding south past the small fort and the orchards of Chimak, I was taken to Fathābād, the last hamlet of Isfandāqeh to the south. To the south-west of it there extends a debris-strewn area, about 400 yards in diameter, marking an abandoned village site. The potsherds to be seen on the surface were all of plain coarse ware, only one fragment showing 'ribbing' outside. Occupation here was not likely to date far back. To the west of the village the ruins of a well-built mansion attracted attention. It had been built by Ibrāhīm Khān, one of the present local Khān's predecessors, and abandoned some sixty years ago owing to the sudden failure of a *qanāt*. In a walled enclosure near it the furrows once dug for a vineyard could still clearly be seen. Evidence of a more prosperous past was afforded by the domed tomb to be seen near Daulatābād and said to have been built as the last resting-place of Amīr Haidar, an old chief of the Mehnī tribe in Shāh 'Abbās's time. The style of the structure, now in a very ruinous state, seemed to agree with this dating, as also a tombstone, of A.H. 1012 (A.D. 1603-4), within.

On the morning of November 20th we left the Isfandāqeh plateau with its bracing cold air to descend south-eastwards into the low valley of Bulūk adjoining the Jīruft trough. There I wished to resume contact once more with ground

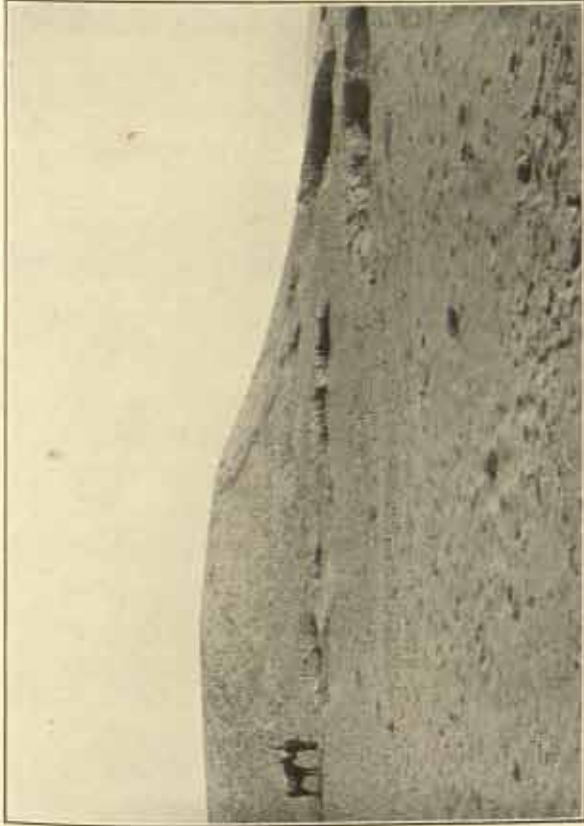
visited on our journey from Balūchistān before definitely turning south to gain the coast of the Persian Gulf. A special direction was given to this move by the information received at Isfandāqeh of *tumps* resembling those seen in Jīruft to be found at Darūyi near the centre of the Bulūk tract. This indication fortunately allowed me to choose a route across ground which the Survey of India map showed as unsurveyed. It led up a wide gently sloping valley where wild pistachio and pomegranate bushes grew, to the Chorchur saddle (6,550 feet). From it a distant view opened to the rugged range overlooking Jīruft from the west and to the Kōh-i-Kalmurz dominating Rūdbār on the south. As we descended an open valley to the south-east the vegetation marking subterranean drainage grew less and the detritus slopes more broken. After covering some 24 miles we were glad to be guided, as darkness set in, to the spring of Ābīd, hidden in a rocky ravine (4,750 feet).

The next day's march took us down by a wide flood-bed traversing broad gravel slopes to the small hamlet of Sāmīk (2,800 feet), where a spring irrigates some fields and a plantation of date-palms. With much broken and utterly barren foot-hills around, the scenery typically marked our return to the Garmsīr or 'Hot Region'. Thence we turned south and, descending over a bare glaciis of Piedmont gravel, reached the thin date-palm groves of Darūyi (2,050 feet) near the bottom of the wide depression known as Bulūk. The palm groves and some fields of the hamlet receive irrigation from a *qanāt* fed by drainage from the hill chain we had descended.

The mound, or *tappa*, of Darūyi measures about 200 yards from east to west and some 88 yards across where widest. It rises to a height of 37 feet above the field-level on its north side. Potsherds of undecorated coarse ware of reddish colour or bearing a whitish-grey slip lay plentifully exposed on the slopes. Only very few painted fragments could be found, with roughly drawn simple patterns in black or brown (Dar. 2, 3; Pl. XXV) which recalled those of the 'late prehistoric' ware from certain sites of Northern Balūchistān.³ Only protracted excavation could have shown whether the mound had grown up above the remains of a chalcolithic or still earlier settlement. So much, however, seemed clear that such prolonged settled occupation as the height of the mound indicated, in times preceding *qanāt* cultivation, presupposed a regular supply of water from the flood-bed, now dry, passing Darūyi on the south or from some other surface drainage now wanting.

This conclusion was strengthened when on the morning of November 22nd I examined the mound, known as *Tappa-i-Nūrābād* (Fig. 56), situated half a mile farther west and also near the flood-bed just mentioned. Much broken by

³ See *N. Balūchistān Tour*, Pls. II, III.



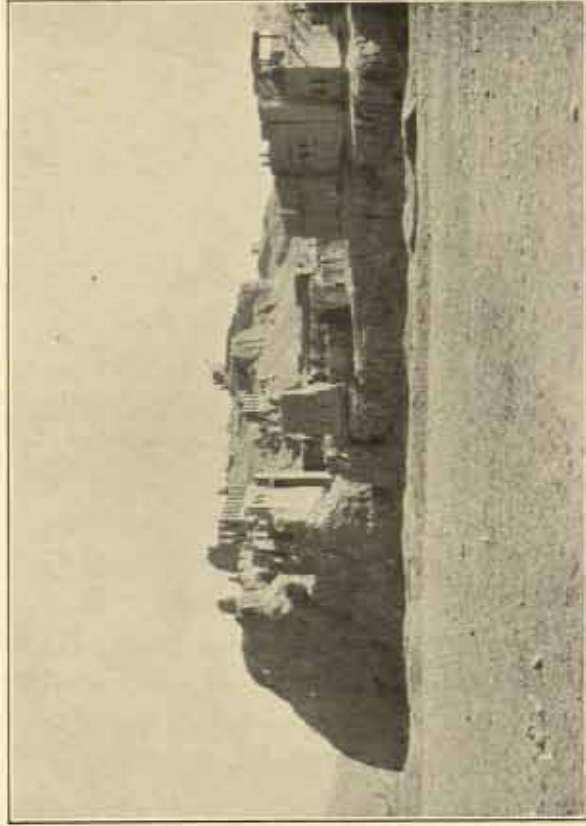
66. MOUND OF TAL-I-IBLIS, SEEN FROM NORTH-WEST



66. TAPPA-I-NŪRĀBĀD MOUND, SEEN FROM NORTH-EAST



57. RAVINES TO SOUTH OF CHAKCHAK PASS, RŪDĀN



58. FORT OF MINĀB, SEEN FROM WEST

ravines due to erosion, it stretches for about 240 yards from east to west, has a maximum width of some 200 yards, and rises to a height of 34 feet at its western extremity. The slopes to the north have in places been dug into for manuring earth. Plentiful potsherds could be picked up on the surface of the mound, and among them a considerable number of fragments showing painted decoration of unmistakably chalcolithic type (for specimens see Pl. XXV). In both plain and painted ware the body varies in colour between red, cream, and grey, the latter being generally of finer clay. The patterns are mostly painted in black or brown on the body itself, as is always the case on the pieces of fine grey clay (Nur. 2, 8, 57, 72). But in some fragments the design is applied over a cream slip (Nur. 1, 28). This slip appears also in a few pieces with polychrome decoration in light red and dark brown (Nur. 35, 67). Brown and black bands without the use of slip are seen combined in 32, 40, 71.

The decorative motifs used are all geometrical. They comprise zigzags and hachured triangles arranged in rows (1, 38, 41, 53), herring-bone (8, 23), or upright set in panels (28). Of interest is the appearance of Sigmas in a row (37, 47) and of the 'fringed fan' pattern (31) as known from Khurāb and other Balūchistān sites, here, too, used on the inside surface. All the pottery seems wheel-made. The few flint blades or scrapers found confirm prehistoric occupation, as does also the negative evidence furnished by the total absence of glazed ware. By its position the mound of Nūrābād serves to bridge as it were the great gap between the sites of prehistoric settlement traced in Rūdbār and the nearest of those since examined by me to the west in Fārs. Hence I must specially regret that neither the limitations of work imposed nor the time to be spared would allow of a proper investigation of the mound.

Report received of other old remains induced me to proceed from here farther up the Bulūk tract. The *tappa* near the *ziārat* of Mahadābād, reached after covering 3 miles over bare ground crossed by *qanāts*, proved a natural terrace of clay occupied by decayed Muhammadan tombs. Bulūk, a fortified hamlet with a mill and large garden, 2 miles beyond to the east-south-east, was next visited. To the north of the walled garden a stretch of slightly raised ground, measuring about 350 by 260 yards, was found strewn with fragments of burnt bricks, broken pottery, and rubble from decayed walls. Plentiful fragments of glazed ware, mostly in varied tints of green and blue, together with small pieces of relievo-decorated pottery, produced from moulds and closely resembling that found at the site of medieval Jīruft, attested occupation in Muhammadan times. The place must have been of some importance as it apparently gave its name to the whole tract, or else was thus called from being once its chief place. Another 3 miles to the south-west took us across gravel *dasht* and some

qanāts to a small ruined fort occupying the top of a low mound near an outlying patch of cultivation known as Kahnū Panchar. Fragments of burnt bricks covered the mound in plenty, but neither painted nor glazed potsherds were to be found here.

Our onward march led thence west past Saiyyidābād, with the large mansion unfinished and already half-decayed of the late chief landowner of Bulūk, imprisoned for years. Soon leaving cultivated ground behind, we crossed the watershed towards the Gulāshgird river over a succession of low gravel plateaux and ridges. It forms here the divide between the sea and the drainageless basin of Rūdbār that we had traversed in the spring. The wide alluvial plain reached beyond was found to bear plenty of scrub and jungle trees. Still more convincing proof of moisture descending to it from the mountains which gird the Isfandaqeh plateau was afforded by an extensive patch of ground more than a mile across where intermittent cultivation, known as *bāsbkārī*, is carried on by semi-nomadic graziers in years of sufficient rainfall. Of former more permanent cultivation no trace was to be found as we sought our way through jungle growth to the *ziārat* of Hazrat 'Abbās, where a well fully 50 feet deep allowed us to get water and to camp.

On the morning of November 23rd we struck due south across the flat valley bottom, here, too, scrub-covered for the most part and showing here and there patches of former *bāsbkārī* cultivation. Then, after having gone some 6 miles and crossed a shallow and wide flood-bed, we arrived at a stony alluvial fan descending from the foot of the Kōh-i-Kalmurz hill chain, and found there a considerable series of burial cairns, or *damb*s, such as our guide from Darūyi had reported. They rose only 2-3 feet above the uniform waste of rubble, and were very roughly built. One of the two, which the curiosity of our escort officer allowed us to open, contained a few small fragments of human bones. The jungle below the alluvial fan is visited by graziers and known as Damēl.

From here onwards for a distance of close on 4 miles there were found at short intervals much larger series of cairns scattered over the stony glaciis at the foot of the hills stretching to the west. At one of these burial-places, obviously of pre-Muhammadan times, I counted more than 150 cairns. In one of these, about 9 feet in diameter, numerous bone fragments were found at a depth of about 2 feet, and among them pieces of a human skull. A small jar, wheel-made and broken in antiquity, measured $3\frac{1}{2}$ inches across below the neck; within it lay a semi-fossilized date. Extensive clusters of cairns could be seen to continue well beyond the point where we recrossed the flood-bed skirting the detritus-covered foot of the hills. Some 3 miles farther on we reached the village of Darra-shōr, ensconced among date-palm groves. These and the fields cultivated by the

occupants of its hundred-odd mat-huts receive ample water from 7 or 8 *qanāts*. Their discharge fills a stream which, in a narrow gorge, breaks through rugged low hills and farther down joins the Gulāshgird river, which passes through the same hills about 3 miles to the west of Darra-shōr.

Intelligent guidance secured at Darra-shōr made it easy to visit from there, on November 24th, several ruined sites at short distances to the north. Together with those large series of burial cairns they clearly proved that this tract with its potentially fertile soil must have held a much larger settled population during historical times. After inspecting a number of *dams* at the hill foot west of our camp above Darra-shōr, we were led across the scrubby plain to the north-west. After covering about 2 miles over ground where several pottery-strewn patches marked former occupation, we reached a conspicuous mound rising some 24 feet above the flat alluvial plain. It measures about 270 yards from north-north-west to south-south-east and some 230 yards across at its widest. It is known by the name of *Hissār*. Apart from the plentiful plain potsherds of coarse red or yellowish ware there were found on the surface fragments of glazed blue, green, and yellow pottery; also some of superior burnished red ware, thin and painted with simple lines or hachures in black (D. shor. 15, 20; Pl. XXV). A few pieces of similar terra-cotta-like fabric show burnishing; others are incised with comb-drawn scrolls or are neatly ribbed (D. shor. 9, 19; Pl. XXVI). Pieces of green glass of varying thickness could be picked up in numbers. There was found also the fragment of what seems to have been a bronze vessel. The general impression I received was that the site marked by the mound had been occupied from early historical times and for a prolonged period. The absence of any worked flints and of alabaster fragments militates against the assumption of occupation having started at the site from chalcolithic times.

Going about 1½ miles to the north-east from Hissār, past clumps of large tamarisks and abandoned *qanāts*, there was reached an extensive debris area close to the east of the domed Ziārat-i-Dāniāl. It stretches for some 420 yards from north-east to south-west and about 380 yards across. At the north-eastern end low mounds of earth, about 88 yards square, mark the position of a ruined fort. Medieval occupation of the site, probably in early Muhammadan times, was proved by an abundance of pottery fragments strewn the ground. Among these were numerous remains of relief-decorated ware produced from moulds and closely resembling in style that found at the ruined town near Behkird in Jiruft.⁴ Local production is indicated by pieces of moulds. Glazed potsherds showing relief or painted decoration are also of the type represented at the Jiruft site. Import from the Far East is attested by a number of fragments of porcelain

⁴ See above, pp. 152 sq.

and fine stoneware, unmistakably of Chinese make, and this helps to confirm the approximate dating.

In years of good rainfall *bāsbkārī* cultivation is carried on in the vicinity of both these sites by people from Pariāb village, which lies farther north. That the whole area had at one time supported a considerable population is made probable by a succession of smaller debris-strewn patches of ground and traces of former *qanāts* which were passed on our way to the village of Shāhdurmah. Its extensive stretch of date-palm groves is watered by a lively stream, which descends from the hills in the north-west and here passes through a gorge down to the group of palm-girt hamlets collectively known as Gulāshgird.⁵

It is at this point, where the open valley ground extending unbroken to the south-west through the Jīruft trough and Bulūk ends, that a point in Marco Polo's account of his journey from Kermān to Hormuz may conveniently receive notice. We have seen above that the 'city of Camadi' to which it brought him can with certainty be located at the great ruined site near Behkird at the head of Jīruft. It has long been recognized that the Venetian refers to the route leading thence through Jīruft and Bulūk, where he tells us: 'The Plain of which we have spoken extends in a southerly direction for five days' journey, and then you come to another descent some twenty miles in length, where the road is very bad and full of peril, for there are many robbers and bad characters about. When you have got to the foot of this descent you find another beautiful plain called the Plain of Formosa. This extends for two days' journey.' The subsequent mention of a two days' ride to the seashore and a 'city with a harbour which is called Hormos' makes it clear that Marco Polo must have reached the coast by the route which, after descending the Gulāshgird valley and crossing the Rūdikhāneh-i-duzdī, the 'Robbers' river-bed', reaches the coastal plain at Shamīl probably over the pass of Nivargudār. From Mīnāb, where the only other route that can come into consideration debouches, the port of old Hormuz would be only half a day's journey.⁶

Now, just before recording these details of the route he followed, Marco Polo relates his escape from a band of robbers: 'In this plain there are a number of villages and towns with lofty walls of mud, made as a defence against the banditti, who are very numerous and are called Caraonas.' Then, after being given an interesting account of 'those scoundrels and their history' we are told 'that Messer Marco himself was all but caught by their bands . . . but, as it pleased God, he got off and threw himself into a village hard by, called *Cono-*

⁵ Gulāshgird is mentioned by Arab geographers under the name of Walāshkird, Walāshjird on the road from Jīruft to Hormuz; cf. Schwarz, *Iran im*

Mittelalter, p. 248.

⁶ See Yule, *Marco Polo*, i. p. 107, with abundant comments, *ibid.* i. pp. 111 sqq.

salmi. Howbeit he lost his whole company except seven persons who escaped along with him.⁷ In the absence of any definite local indication it is not possible to identify 'Conosalmi', certain previously suggested locations having been based purely on conjectured similarity of modern names.⁸ The distance of five days' journey indicated for the plain by the text would permit of the village of 'Conosalmi' to be looked for anywhere up to the 'Robbers' river-bed', and even for some distance beyond; for apart from the gorge between Shāhdurmah and Gulāshgird the whole of the ground traversed by the route is open and easy. The name 'Rūdkhāneh-i-duzdī' is, however, significant and shows that it is this portion of the route which has for a long time past been particularly exposed to bandit attacks.

There is another question of historical topography, and one of distinct interest by its classical associations, which calls for brief mention here. It concerns the locality where the meeting of Alexander and Nearchos after the latter's hazardous voyage with the fleet from the mouth of the Indus to Ἀρμωζεία, i.e. Old Hormuz, may be supposed to have taken place. On the strength of a statement in Arrian's narrative which puts the distance from the port where the fleet had anchored to Alexander's camp at five marches,⁹ the position of the latter has been sought for at or near Gulāshgird.¹⁰ But the oasis of Kahnū, a place of equal if not greater importance, and certainly on Alexander's most likely line of march from Gedrosia, might also come into consideration on the ground of distance. No definite conclusion seems possible, especially as the dramatic treatment of some details in Arrian's story must raise doubts, and Diodoros's account of the reunion altogether differs.¹¹ The question is obviously bound up with that as to the route followed by Alexander on his march from Gedrosia towards Persis. Hence it seems more appropriate to reserve its discussion for a separate paper in which I hope to deal with the subject of Alexander's operations in Gedrosia as a whole and their immediate sequence.

SECTION III—THROUGH RŪDĀN TO OLD HORMUZ

Neither at Gulāshgird, where cultivation seemed confined to luxuriant groves of date-palms with groups of mat-huts scattered among them, nor on the march which, on November 25th, took us down by the barren banks of the Rūd-i-shīrīn

⁷ A very curious portion of this account relating to a great exploit of Nogodar, the leader of those Mongol freebooters, has been discussed in my paper, 'Marco Polo's account of a Mongol inroad into Kashmir', *Geogr. Journal*, Aug. 1919.

⁸ Cf. Yule, *loc. cit.* i. p. 99; for attempts to identify 'Conosalmi', *ibid.* i. p. 106, note 6.

⁹ See *Indikē*, xxxiii. 7.

¹⁰ Cf. Tomaschek, *Zur historischen Topographie von Persien*, p. 46; Herzfeld, 'Pasargadae', in *Klio*, 1908, p. 20.

¹¹ For some judicious observations on Arrian's story cf. Chantraine, *Arrien, L'Inde* (Budé edition), p. 71, note 1.

to the modest hamlets collectively known as Bar-Rūdkhāneh-i-duzdī, did I learn of any old remains. But while encamped at one of them called Qal'a-saidī, from the crumbling stone walls of a small modern fort, I was told by the brother of the village headman who had met us in the spring while at the Tump-i-Kharg below Jiruft, of mounds to be seen at three places, Khazāna, Gilkand, and Qalātu or Dō-chāhī, in valleys eastwards. The chance of visiting them was not to be afforded to us. By the evening the officer in charge of the escort had our would-be guide arrested on some charge known only to himself. Thereupon all knowledge of such places was denied in the morning both by the unfortunate man himself and the rest of the villagers, who saw him marched off by the soldiers—to be released only two days later.

I had already decided to make my way to Mīnāb at the mouth of the Gulf in order to examine what remains might be traced there of Old Hormuz. There I hoped also to get into touch with the Consulate at Bandar Abbās, and through it with the Persian authorities outside the Kermān province, who might be expected to ensure the facilities needed for my work. In order to reach Mīnāb the route through the Rūdān tract, though not the shortest, perhaps, or the easiest, recommended itself by the chance of looking for traces of early occupation in its central and more open portion, watered by the 'Robbers' river-bed'. As the river passes lower down through a narrow gorge considered quite impassable for baggage animals, it was necessary on the march of November 26th to follow the track which is used also by those making for Nivargudār and Shamīl. This route took us first across the Rūdkhāneh-i-duzdī a short distance above its junction with the Rūd-i-Gulāshgird or Rūd-i-shīrīn, and then across a wide stony plateau to Rāhdār with some wells and date-palm groves. On the following day we continued our ascent over the much-broken plateau to the Chakchak pass (2,140 feet). After crossing it, we made our way down through wildly fissured ravines (Fig. 57) difficult for laden transport to the tiny oasis of Pariāb (1,050 feet). It was a pleasant surprise to find there a well-laid-out orchard, watered by a *qanāt*, with mango-trees, bananas, and other sub-tropical growth.

Next day a march of only 6 miles brought us over a broad gravel fan down to the edge of the wide valley plain which holds most of the cultivated area of Rūdān. Fields and date-palm plantations stretch for some 5 miles along the left bank of the river and for about 7 on the other side beyond its wide rubble-filled bed. Passing Deh-bāriz, the chief place of Rūdān, and another walled village, we first visited Sang-i-Rustam, a palm-girt hamlet farther north, to which I was attracted by its name. But the 'Stone of Rustam' proved only a great natural boulder embedded in the alluvial soil, without any marks of the hand of man. A small mound subsequently visited in the centre of Deh-bāriz village, measuring

about 44 yards in diameter and 15 feet in height, could not be examined closely owing to the huts and refuse heaps which are packed on and around it. With the exception of a few glazed fragments found on its top, the pottery exposed on the surface consisted of coarse plain ware, undeterminate as to its period.

Passing thence about 6 miles to the south-east, across two wide rubble-filled beds of the river and a cultivated island between them, I proceeded next to a conspicuous ruin known as Qal'a-i-Kumiz from the name of a neighbouring hamlet. Built on a steep rocky hillock and surrounded at its foot by a much-decayed outer wall, some 280 yards square, the fort looked imposing. The structure within, measuring about 88 by 33 yards and built with small mud bricks, though much dilapidated, was manifestly of recent date. The pieces of glazed pottery and incised ware, with comb-drawn designs, which were picked up on the slopes below, confirmed this impression.

It was different with the indications gained at a site known as *Tappa-i-Sultān Miri*, which was shown to us amidst well-tilled fields about a mile to the west. There we found close together two small mounds which unmistakably date from a prehistoric settlement. They were both being terraced for cultivation and irrigated on the lower slopes by means of water raised from a canal with the help of leather buckets worked from poles. The trouble taken over this reclamation was doubtless prompted by the special fertility of the soil due to deposits of ancient refuse. The mound to the east, obviously much reduced in size by these operations, measured about 40 yards across its top, which rose some 15 feet above the present field-level. The other mound, also of the same height, quite close to the west appeared to have been detached from it by the levelling down of the intervening strip of ground now all irrigated. The size of this mound was at the time some 110 by 88 yards.

On the surface of both mounds there could be picked up plenty of pieces of well-levigated plain pottery, of decidedly ancient appearance, besides a considerable number of fragments of equally well-made painted ware, showing simple geometrical designs familiar from the chalcolithic pottery of Balūchistān sites. The body of these fragments varies between light red, cream, grey, and a pinkish-yellow. The specimens reproduced in Pl. XXV (S. Miri 15, 16, 18, 19, 26, 34, 39) will help to illustrate the painted patterns. It deserves to be specially noted that in several pieces, e.g. 26, broad bands of deep terra-cotta colour are combined with black ones for decoration. The appearance of this polychrome treatment might perhaps be taken as an indication of a somewhat later stage of prehistoric occupation. But note must be taken also of a few worked flints which were found here. The site if visited under conditions other than those imposed would certainly have invited trial excavation.

It was the same also at a far more conspicuous mound, known as *Tappa-i-Mauru*. Situated about half a mile to the south-east from the last-named it rises to an approximate height of 45 feet, and measures at the base about 230 yards from east to west and some 170 yards across. Here, apart from coarse plain ware, we found on the slopes only pieces of poor glazed ware, white, yellow, or brown, and of late medieval look. A few fragments of painted pottery were picked up at the foot of the mound; but these were quite small, and the traces of black patterns left either on the light red ground or on a dark red slip covering this were too indistinct to permit them to be definitely recognized as prehistoric. Here, too, excavation might yet prove fruitful by revealing chalcolithic deposits under the cover of debris left behind by occupation down to medieval times. Even a prolonged search on the surface was made difficult by the escort, attracted probably by the prospect of reaching Mīnāb and its town comforts sooner, having moved on with the baggage to Birinti, the last inhabited place in the valley and a considerable distance lower down. When we arrived there by nightfall we found the place completely deserted—out of respect for our protectors. This portion of the Rūdān tract with its fertile soil may count as much as a thousand households. But the people seemed all wretchedly poor and could scarcely be expected to welcome official guests!

On November 29th a long march took us down to the town of Mīnāb at the head of the fertile oasis which extends down towards the coast and once comprised the famous trading-place of Old Hormuz. The route lay all the way through the narrow winding gorges in which the river, formed by the streams of Rūdān and Manujān uniting close below Birinti, has cut its passage towards the sea. It is a route affording ample opportunities for marauding exploits, still heard of nowadays as in Marco Polo's time. They must be particularly easy to carry out at two points where the track leaves the river-bed hemmed in by precipitous cliffs and in narrow ravines clambers across projecting spurs. Only at one point about 12 miles below Birinti does the track pass some cultivation in the shape of some neglected date-palm groves, known by the name of Mīr 'Alī-Dād. But numerous burial cairns seen a mile lower down on a stony terrace suggested a former settlement of some size.

The small town of Mīnāb is situated close to where, some 8 miles farther down, the river debouches on a wide alluvial fan. With its modest bāzār, Mīnāb has nothing to show that might recall the great importance that Hormuz once enjoyed as an emporium for the sea-borne trade of Persia and the regions adjacent to the Gulf. 'Merchants come thither from India', so Marco Polo tells us, 'with ships loaded with spicery and precious stones, pearls, cloths of silk and gold, elephants' teeth, and many other wares, which they sell to the merchants

of Hormos, and which these in turn carry all over the world to dispose of again. In fact, 'tis a city of immense trade.'¹

But what he relates of the 'fine streams of water with plenty of date-palms and other fruit-trees' to be found in the surroundings is still true. The canals taking off close below the fort, picturesquely perched on a rocky spur above the narrow lanes of the town (Fig. 58), carry fertility over an area which, varying in width and broken here and there by belts of scrubby waste, extends for fully 10 miles to the south and about the same distance to the west. With its date-palm groves, fields growing barley and other cereals, and luxuriant orchards of sub-tropical fruit trees, the oasis of Mīnāb is bound greatly to impress the traveller, whether he descends to it from the arid barren hills inland or reaches it after following the still more forbidding coast from the side of Makrān. But the pleasing contrast thus presented cannot obscure the truth of what the Venetian notes of Hormuz: 'It is a very sickly place, and the heat of the sun is tremendous.' This observation and what he says about the residents avoiding living in the towns during the summer, are in full agreement with the notices of the early Arab geographers.²

In view of plain geographical facts the location in the Mīnāb tract of the Hormuz seen by them and Marco Polo cannot be subject to any doubt; for nowhere else on this coast is a river to be found that could possibly allow of such plentiful cultivation and local resources as their descriptions imply. Nor can such advantages for safe anchorage as the tidal creeks at the mouth of the Mīnāb river provide for ships of shallow draught be looked for anywhere else on the Persian coast near the mouth of the Gulf. If any more explicit proof were needed for this location it is furnished by the notices of two Muhammadan travellers, Abūlfidā and Ibn Baṭūṭa, who wrote of 'Old Hurmūz' not very long after Tartar ravages had brought about the transfer of the trade emporium from the mainland to the island of 'New Hurmūz' about the close of the thirteenth century. In the accounts of both travellers this island of Hurmūz, which formerly was known as Jarūn or Zarūn, and since that transfer soon rose to fame as one of the richest ports in the East, is clearly stated as lying within a short distance to the west of 'Old Hurmūz'.³ And in fact the distance of 3 *farsakb* across the sea, which Abūlfidā gives

¹ Cf. Yule, *Marco Polo*, i. p. 107.

² See Yule, *Marco Polo*, i. p. 108: 'The residents avoid living in the cities, for the heat in summer is so great that it would kill them. Hence they go out (to sleep) at their gardens in the country, where there are streams and plenty of water.'

For translations of the accounts of Hurmūz given by Iṣṭakhri, Muqaddasī, and other Arab geographers, cf. Schwarz, *Iran im Mittelalter*, pp. 242 sqq. Exactly corresponding conditions about the

summer heat and the consequent exodus of people are noted at Bandar Abbās by European travellers of the seventeenth century, and are observed at the present day; cf. Yule, *loc. cit.* i. p. 119, note 4.

³ See for translations of both notices, Schwarz, *Iran im Mittelalter*, p. 244; also Yule, *Marco Polo*, i. p. 110 sq., note 1, where the bearing of these notices and that of Edrisī (i. p. 424 in Jaubert's translation) has been clearly recognized by the great commentator.

as the distance between the two, takes us closely enough to the point where the Mīnāb river enters the sea, about 22 miles to the east of the island, and near which, as we shall presently see, remains of the old port can be actually traced.

There is no need, it seems, for me to review here the notices relating to the history of Old Hormuz in Muhammadan times. They will be found duly recorded in Sir Arnold Wilson's admirably documented book, *The Persian Gulf, Past and Present*,⁴ and as far as I can judge, do not touch on points of special antiquarian interest. But such can certainly be claimed for the earliest historical mention of Hormuz, preserved for us in the account which Arrian's *Indikê* gives of the voyage of Alexander's fleet under Nearchos.⁵ We are told there that the ships, after having sailed along the coast for 700 stadia from where the promontory on the Arabian side of the Strait, the Cape Musandam of the maps, was first sighted, cast anchor at the shore of *Neoptana*.⁶ 'Starting thence at dawn, and having sailed 100 stadia, the fleet cast anchor at the mouth of the river *Anamis*. The tract was called *Harmozeia*. It was pleasant and fertile ground but olives would not grow. There they disembarked and enjoyed their ease after their many hardships, &c.'

The name of the locality which so closely corresponds to that of Hormuz and the description given of its fertility have long ago been recognized as definite proof that by the *Anamis* the river of Mīnāb is meant. For those who have seen something of the forbidding shores of Makrān and those adjoining them towards the mouth of the Persian Gulf, it is easy to realize the feelings of the men of Alexander's fleet when at last they found themselves close to a large oasis like Mīnāb, the 'Old Hurmūz', and could collect ample supplies. We are next told how some of the men who had gone on shore for this purpose met a Greek who had come from Alexander's camp. When Nearchos had learned from him that the royal camp was halting only five days' march away, he decided to make his way to the king. Returning to the ships he had them drawn on shore and the landing-place protected by a double palisade, an earthen wall, and a deep ditch, stretching from the river's bank to where his ships lay.

It is evident from the above that the importance and antiquarian interest of Old Hormuz lay mainly in its harbour, and this, as the map and the notices of

⁴ See Wilson, *Persian Gulf*, pp. 100 sqq.

⁵ Cf. *Indikê*, xxxiii. 2.

⁶ Judging from the distance of 100 stadia indicated it appears tempting to locate Neoptana at the hamlet and fort of Kuhistak situated, as the Survey of India Sheets 25. B and 25. F show, some 15 miles in a straight line from Chāh-khwā. This is the point on the present coast nearest to the site of Burchik down to which I was able to trace remains of landing-grounds by the old terminal

course of the Mīnāb river; see below, p. 185. The 100 stadia of the text correspond very closely to this distance. To Burchik itself the distance is about 2 miles greater.

Tomaschek, *Topographische Erläuterung der Küstenfahrt Nearchs*, p. 42, would place Neoptana at the fishing hamlet of Khargūn. This, however, would bring Neoptana too near the old terminal bed of the river at Burchik, the distance being only about 6 miles by the map, and still less to Chāh-khwā.

Arab geographers and later writers clearly show, has to be looked for at some considerable distance from the present town of Mīnāb. The fort above the latter with its large ruined structures may, in view of its strong natural position, be safely assumed to mark Mīnāb town as the place whence the district from medieval down to comparatively modern times was administered. But there is no reason to assume that it was ever a large town. Iṣṭakhrī refers to Hormuz as a centre for the trade of Kermān and as a marketing-place, but distinctly mentions that 'there were not many dwellings there. The houses of the traders lie in the surrounding district: up to a distance of two *farsakhs* they are scattered in the villages.'⁷ Muqaddasī in his concise notice of the town states that 'Hurmūz lies a *farsakh* from the sea', and elsewhere indicates two postal stages as the distance from Hurmūz to the harbour.⁸

On my arrival at Mīnāb I had learned through information transmitted by the Consulate at Bandar Abbās that telegraphic instructions had been received there from the Governor-General of the Coast Province and sent on to the local officials at Mīnāb and elsewhere to afford me assistance in my work. It was probably in consequence of this helpful attitude at head-quarters that my inquiries about remains which might lead towards a safe location of the old harbour did not fail to secure useful guidance. The uniformly expressed local belief was that Shāh-bandar near Tiāb, where boats of any draught now unload at the head of a creek some 13 miles almost due west of Mīnāb town, did not represent the old harbour, and that the latter was marked by certain remains to be seen to the south-west at no great distance from a point where the main terminal channel of the river approaches the sea. Boats of light draught would still come up this channel for some distance, thus reaching somewhat nearer to Mīnāb. But, owing to the ground here being more liable to inundation after rain, Tiāb hamlet was said to be preferred as a landing-place.

In order to test this information, I moved on December 1st from Mīnāb to the south. For about 8 miles our way led by winding lanes past a continuous stretch of orchards and palm-groves watered by canals from the river. Its wide stony bed, dry at this season, was kept by us so far close on our right. Then, where it took a bend westwards we left it, and continuing south for another two miles and a half beyond the village of Bilēdī, passed across a wide belt of scrubby waste evidently liable to inundation at times of flood. Beyond a narrow stretch of date-palm groves fringing this dry marsh bed, and belonging to the hamlet of Gurāzū,

⁷ See Schwarz, *Iran im Mittelalter*, p. 243.

⁸ Schwarz, *ibid.*, quoting Muqaddasī, 473, 9, rightly points out that this estimate seems exaggerated, unless it were meant for the distance from the first settlements travellers would reach.

It is possible that here, as in Marco Polo's account, the distance is meant between the harbour and the entrance into the district if reached at Shamīl from the Kermān side; cf. above, p. 176.

there extends a line of low sandy terraces for about 800 yards from north-west to south-east. The site is thickly covered with broken pieces of burned bricks and pottery debris, and is known as *Qalāt-sarāwān*.

The types of decorated ceramic ware represented by plentiful fragments left no doubt about the locality having been occupied in early medieval times. Among the specimens reproduced in Pl. XXVI, those of glazed ware, showing incised floral designs under green, brown, or mottled yellow glaze (Gur. 26, 32, 35-7), closely resemble the glazed pottery abundantly found at the kilns of Tīz.⁹ But particularly characteristic are the abundant fragments of a fine, rather porous fabric, neatly decorated with geometrical patterns which have been either impressed by stamping (Gur. 15, 17, 21, 39, 40, 55-7, 61) or else produced from moulds (24, 43). One of the latter (25) retains traces of Kufic characters. Fragments of moulds, such as 58, prove local production of this pottery, and certain spots, where potsherds lay thick in the sand overlying shelves of soft sandstone, had the appearance of having served for kilns. Several small pieces of porcelain obviously indicated Chinese import. There were also fragments of twisted glass bangles and a small piece of a relief-ornamented glass vessel.

From the little hamlet of Kumbil 2 miles farther south, where our camp was pitched, I was able to visit, under an intelligent villager's guidance, two ruined sites undoubtedly marking localities which once had seen the shipping activities of Old Hormuz. The first of them, known as *Kalātun*, was reached after crossing for some 2½ miles to the west a bare alluvial plain which is liable to be flooded from the sea at exceptionally high tides. It is intersected by several shallow channels ordinarily receiving tidal water. Arrived at *Kalātun*, we found a considerable stretch of ground rising but slightly above the tidal flood-level covered with fragments of burnt bricks and potsherds. For a distance of more than 800 yards from north-west to south-east, I was able to trace rectangular lines of rough stonework, marking the foundations of houses. The stones, often large, seemed to have been brought from the Arabian hills across the strait, much of the material appearing to be of volcanic origin. Many small pieces of good Chinese porcelain were to be picked up, also fragments of glazed and plain ware, the latter much corroded by the effect of sea-water. Conclusive proof of maritime traffic with the Far East in early medieval times was afforded by a Chinese copper coin dating from the period A.D. 1111-19 and a number of fragments, determined by Mr. J. Allan as also belonging to the beginning of the Sung epoch. Ships of very light draught were declared to unload in a creek to the west of *Kalātun*, and a Customs post controlling such traffic was within sight in the distance to the south-west.

⁹ See above, p. 92.

Another site of the same type, known as *Burchik*, was visited about 4 miles to the south-west of Kumbil. On the way to it also, small shallow channels reached by tidal water were crossed. There an area measuring about 400 yards in length, but nowhere more than some 100 yards in breadth, was found to bear wall foundations of rough stones, many apparently tufa. Here, too, plentiful fragments of burnt bricks, together with a variety of potsherds, could be picked up from the salt-impregnated soil. Small, much corroded copper coins, were found in abundance. The largest among them has been recognized by Mr. J. Allan as probably Samanid of the tenth century A.D. Among the pottery there were numerous pieces of porcelain and good stoneware, manifestly Chinese (see Bur. 11, 12, 14, 25; Pl. XXVI), also of glazed or stamped local ware (Bur. 23) closely resembling that found at Qalāt-Sarāwān. A short distance to the east the stone foundations of what obviously had been a mosque, could be made out. Close to the west runs a *kbūr*, or creek, formed by a terminal channel of the Mīnāb river, which was said to be navigable for small boats up to a point known as Tappa-i-Jahūd. A few other *kharābas*, or small 'debris areas' of the same type were said to be traceable farther to the east, on ground approached by tidal water.

The observations gathered at the sites I was able to visit and have just described left me in no doubt about the remains still traceable having belonged to places connected with the shipping which frequented 'Old Hormuz' when its port served the trade of Kermān and other eastern parts of Īrān with India and China.¹⁰ The massive stone foundations of houses, together with the abundance of burnt bricks from their walls, suffice to show that those who occupied them could not have been cultivators or fishing folk content to live in mat-huts or hovels of sun-dried bricks, such as are to be found all over the Mīnāb oasis or along the neighbouring coast. But the present condition of the ground on which those remains are found seems to raise a very puzzling question on the physical side.

It appears clear that no permanent settlement could have existed in places so closely surrounded by flats liable to be flooded, unless the ground occupied by those structures stood at the time considerably higher above sea-level than it does at present. On the other hand, there seems to be some foundation for the general local belief that ships in former times could approach Mīnāb town much closer than they can nowadays. The gradual silting-up of the river-bed near which the sites described are to be found, would explain the latter change; but this cannot account for the lowness of the ground now occupied by them. Could

¹⁰ Iṣṭakhrī distinctly notes that Hormuz, then on the mainland, lay at the head of a creek called Al Jir, 'by which, after one league, ships come up thereto from the sea'; cf. Wilson, *Persian Gulf*, p. 101.

this possibly be ascribed to a gradual subsidence of the coast-line on the Persian side of the Gulf, for which the alluvium brought down by the drainage from the mountains within comparatively recent historical times would not have sufficed to compensate? My observations along the coast as far as Bushire furnished no definite archaeological evidence to support such an explanation. But the possibility of a change of the coast-line having taken place since prehistoric times deserves consideration, and I propose to revert to the question farther on.¹¹

After moving our camp back to Mīnāb town I proceeded to visit a ruined site to the south-west, the only one I could learn of in a direction where remains connected with the old port, apart from those already examined, might be looked for. Guided by the obliging officer commanding the local police, we moved down the broad river-bed to the village of Nasariyeh, ensconced among orchards and date-palm groves on the right bank. Then turning in a westerly direction, the way led past low gravel ridges, with water-logged stretches between, to a wide belt of low ground, which suggested an ancient river-bed, now grass-covered and receiving the terminal overflow from irrigation canals. After crossing this diagonally we arrived at the site known as *Tump-i-surkh*, the 'Red Mound', close to the south of the small hamlet of Gishnū, girt by date-palms. There, between marshy beds, stretches what looks like a natural terrace measuring some 380 yards from north to south with a maximum width of about 200 yards, and varying in height from 10 to 15 feet. The distance in a direct line from Mīnāb town is a little over 7 miles.

The surface of the mound is covered with fragments of burnt brick, rough stones, and coarse potsherds. These, as well as the few small pieces of glazed ware and of coloured glass picked up, had all been affected by the salinity of the ground. Wall foundations built of large unhewn stones were found here also as at the sites near Kumbil, and occupation may be ascribed approximately to the same Islamic period. Whether the wide marshy bed passing to the east of the *Tump-i-surkh* is somehow connected with the *kbūr*, or creek, running inland beyond Burchik and Kalātun or the remnant of another old channel could not be determined without a close survey of the whole ground. So much, however, seems clear from the Survey of India Sheet No. 25. A, that this bed is quite distinct from the creek which boats ascend to Shāh Bandar and Tiāb.¹²

¹¹ See below, pp. 236 sq.

¹² It is possible that the information collected for Sir Henry Yule by Colonel Pelly, then British Resident at Bushire, about 'the ruins of Old Hormuz' refers to this site. This is suggested by the distance of 'about 6 or 7 miles from the fort of Minao' indicated, and the mention that the

Minao river, or its stony bed, winds down towards them. 'The ruins are said to stand several miles up a creek, and in the centre of the present district of Minao. They are extensive (though in large part obliterated by long cultivation over the site), and the traces of a long pier or Bandar were pointed out to Colonel Pelly'; cf. Yule, *Marco Polo*, i.

From here we struck to the north and passed for about 7 miles through an area where stretches of scrubby waste alternate with extensive plantations of date-palms irrigated by canals from the Mīnāb river. Beyond the last village, Kulaibi, passing over a gently rising glacis of clay we reached the regular caravan road towards Bandar Abbās at the village of Gavarband. Here and elsewhere along this road such little cultivation as exists in small patches was found to depend on wells, and what scanty rainfall this ground at the foot of the low outer hills receives.

Nowhere on the journey of fifty-odd miles which brought us by December 6th to Bandar Abbās did I learn of any old remains. Nor could any be reasonably looked for on the wide alluvial plain, almost wholly a barren clay desert, which stretches down to the sea south of the thin chain of little oases passed by the caravan route. For this absence of antiquarian interest there was compensation in the hope that an early arrival at Bandar Abbās, the only Persian port and administrative centre of the present day in the lower portion of the Gulf, would allow me to secure more satisfactory conditions for my travel along its shores.

p. 110, note 1. I could not learn of any remains which would more closely answer to this description.

Here I may conveniently mention that the only other ruined site of which I could learn at Mīnāb was a place named Qal'a-i-Zangiān. When guided to it on the left bank of the river about 2 miles above Mīnāb town, the alleged old castle proved a boldly serrated rocky hill which might have served as a natural place of refuge were its narrow crest

not manifestly inaccessible even to bold cragsmen. Subsequently I was told that our guide had been mistaken and the place intended was really somewhat lower down on the right bank of the river. The specimens of glazed pottery fragments then brought to me as having been found there were all of such late ware that I was not induced to spare time for a fresh visit.

CHAPTER VII

ALONG THE PERSIAN GULF COAST

SECTION I—BANDAR ABBĀS AND THE ISLAND OF HORMUZ

BANDAR ABBĀS, which with its open roadstead has succeeded Hormuz, both the old and the new, as the chief port of trade near the mouth of the Persian Gulf, offered no inducement to make a long stay. There is nothing to show that the locality first known to Europeans by the name of Gombrūn, could claim any importance or historical interest before it was chosen for the town founded by Shāh Abbās to serve as a counter-check upon the base which the Portuguese held on the island of Hormuz for their domination of the Gulf trade. Nor has the subsequent occupation of the site, during which it was the seat of English and Dutch trading factories for close on a century and a half, left behind any notable remains.¹

It was hence not easy to reconcile myself to the serious delay which arrangements about transport for the onward journey along the coast entailed. For two years the coast, arid at all times and exceedingly poor in its agricultural resources, had seen no rain. The limited number of camels and donkeys ordinarily to be found there had been reduced still more by this prolonged drought. It caused conditions of real famine to prevail all along the coast, and also badly affected what scanty grazing it might otherwise be expected to offer for transport animals brought there. No wonder that caravans arriving from the Kermān side promptly vanished with their animals before they could be engaged for my proposed journey.

It was reassuring to find that orders issued from Bushire by the Governor-General of the Coastal Province as a result of the representations made at Tehrān had secured us the friendly attention of the local authorities and removed the risk of such misapprehensions as had brought about interference with our work on the way from Kermān. All the same, the necessary arrangements for a fresh escort added to the delay. No official of the Department of Public Instruction was forthcoming to accompany us as the representative of the

¹ For a well-documented account of Bandar Abbās, with extracts from the notices of European visitors since the early part of the seventeenth century, see Captain A. W. Stiffe's paper, 'Ancient Trading Centres of the Persian Gulf', *Geogr.*

Journal, 1900, Aug., pp. 211 sqq. They all agree in referring to the excessive heat, unhealthiness, bad water and other drawbacks, such as have remained characteristic of the place to the present day.

Service des antiquités with a view to facilitating our labours. But fortunately the officer in charge of the small escort, Naib Muṣṭafa Khān Rashīdī, showed ready comprehension of the harmless nature of our work, and proved in every way helpful in spite of the trying conditions of travel to be faced. A foretaste of these, as it were, was afforded by the serious attacks of fever to which every one of our Indians became subject from the time of our halt. Yet the village of Naiband, where the late Mr. Richardson, the retiring British Consul, had kindly secured us quarters, was believed to be less exposed to malarial infection than the rest of Bandar Abbās.

Towards the close of our stay at Naiband I was able to pay a day's visit to the island of Hormuz. It has often been visited and described, both during the times of its glory, while it was a great emporium of Eastern trade for three centuries, and since its decay with the fall of Portuguese maritime domination in the Gulf.² Nevertheless, I regret that the shortness of the time I was able to spend on the island, between the slow crossings of the sea to and fro, done in a small rowing-boat and without favourable winds, did not allow me to gather more than rapid impressions of its remains of past glory. An imposing monument of it is presented by the strong castle which was built by the Portuguese after the king of Hormuz had submitted to Albuquerque in 1507, and which remained the base of Portugal's supremacy until its capture in 1622. The position chosen for it at the end of a narrow spit projecting northward into the sea affords it protection on all but one side. At the same time, this position assures command of both the anchorages to the east and west of the spit where ships of some draught can find good shelter alternatively from either of the strongest winds prevailing near the mouth of the Gulf.

After three centuries of abandonment, during which the walls, particularly towards the north, have served as a convenient quarry for building material to be used on the mainland, the large portions of this ruined stronghold that still survive afford impressive evidence of the solidity of its construction. The defences are throughout built massively with rough blocks of stone set in very hard mortar, which takes its reddish colour from the red oxide extensively found on the island, and nowadays its sole export. The castle, which is approximately oblong in plan, has its land face protected by a large bastion at the south-western corner, while a massive kind of barbican guards the main gate towards the south-eastern portion of the same face. Through that gate and an adjoining vaulted

² A full account of the history of the island from the time when early in the fourteenth century the kings of Hormuz transferred their seat there from Old Hormuz, down to its capture from the Portuguese and its subsequent rapid decay, is given by

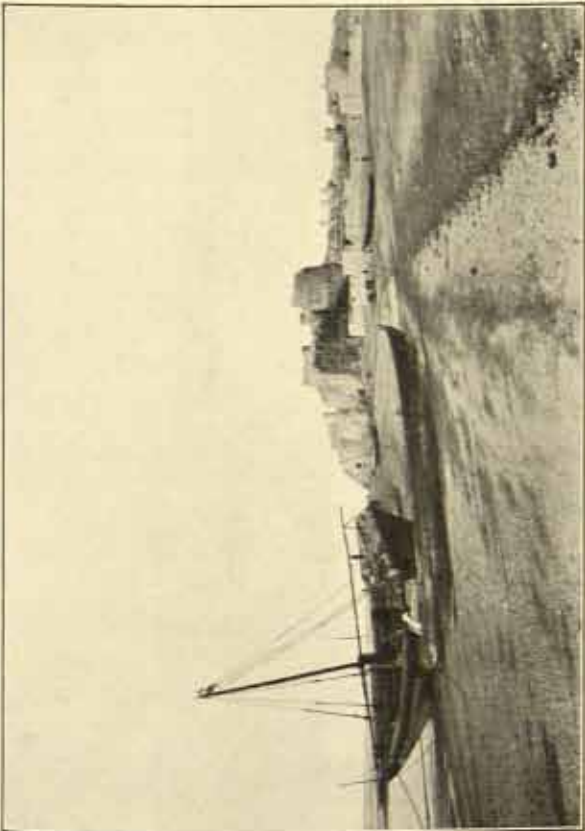
Sir Arnold Wilson, along with copious extracts concerning events in the Gulf region affecting the fortunes of Hormuz; cf. *Persian Gulf*, pp. 105-52; see also Stiffe, 'The island of Hormuz (Ormuz)', in *Geographical Magazine*, 1874, pp. 12 sqq.

passage, access is gained to a large quadrangular court, which on the east and on what remains of the north face is enclosed by lines of great vaulted recesses built against the very thick curtain walls (Fig. 61). At the north-east corner there is reached through a high-vaulted gallery a well-preserved second gate built with large cut slabs and having a porch towards the beach close by. Judging from remains of masonry outside this gate and from what I was told by boatmen about remnants of walls to be seen under water, where the north face of the *enceinte* is now closely approached by the sea, it appears possible that there may have been here an outwork of which the foundations, still *in situ*, have been covered by water through some subsidence of the shore, while the higher portions have been demolished so that the stones might be carried away and used for building at Bandar Abbās.³

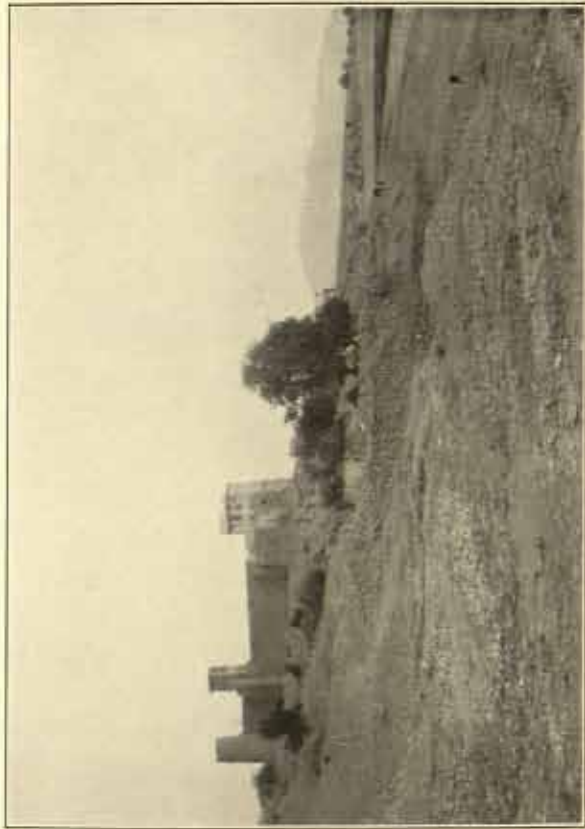
Such operations long continued would account for the complete disappearance of the greatest part of the enclosing wall on the north face, where convenient transport of the materials was facilitated by the close approach of the sea. Effects of the same quarrying are clearly shown also by the extensive damage which the defences towards the west, forming part of a citadel and originally of particular strength, have undergone (Fig. 59). There the outer wall facing of a round bastion has been pulled down, disclosing the circular core of masonry. Beyond this there are shapeless masses of masonry still standing, embedded between the remains of two angular towers or bastions built with roughly cut stone blocks set in regular courses. Could these have belonged to an earlier Muhammadan fort which the Portuguese utilized as a kernel for their citadel?

Returning to the court within the castle, we find in its centre an imposingly large and deep cistern. Its quadrangular roof rests on splendid columns and arches, and rises about 5 feet above the level of the surrounding flat ground (Fig. 61). From the west of the main court an ascent leads through a decayed interior wall to a second court forming part of a kind of citadel. Here there is another great cistern with its vaulted roof supported by four massive square pillars. The arched niches, over which the roof rises, are connected by a narrow ambulatory passage which made it possible to draw water at different places at the same time. Access to this passage is gained by steps leading down from the ground outside. The bottom of the cistern lies fully 20 feet below the passage. The importance attached to the provision of an adequate supply of water is shown by a third cistern smaller in size but very deep. This is passed on ascending by a wide flight of stairs to the top of the great circular bastion which commands the south curtain of the circumvallation, and forms a kind of keep. The

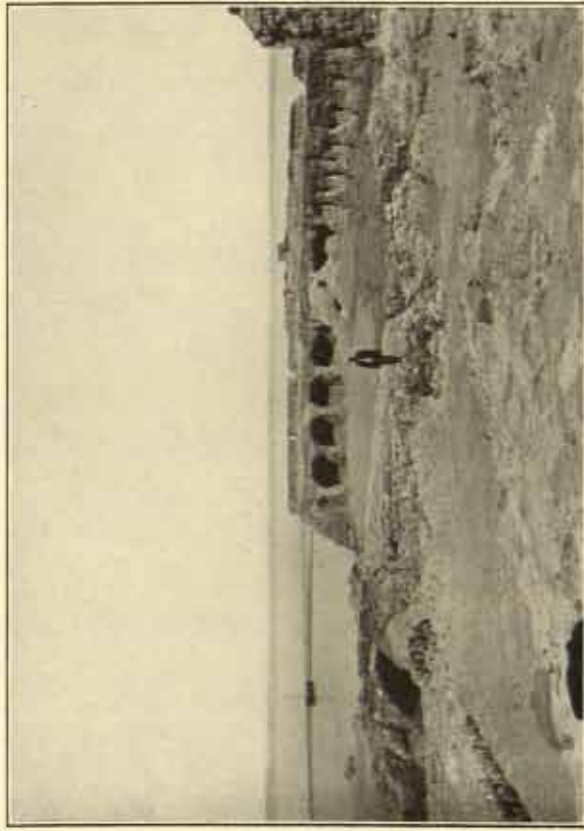
³ Such quarrying operations are recorded by Sir p. 151) and Chardin in 1674-5 (cf. Stiffe, *Geogr. Thomas Herbert* about 1627 (see *Persian Gulf, Journal*, 1900, August, p. 219).



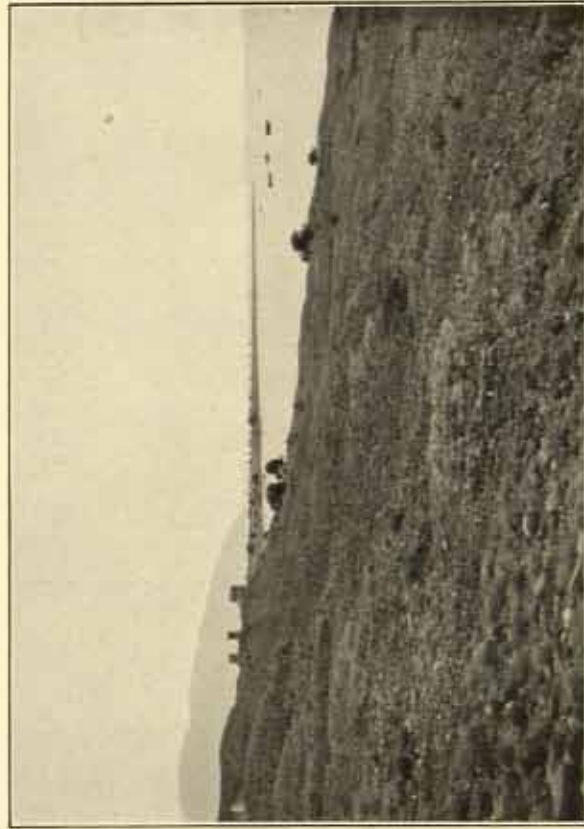
59. FORT OF HORMUZ, SEEN FROM BEACH TO WEST



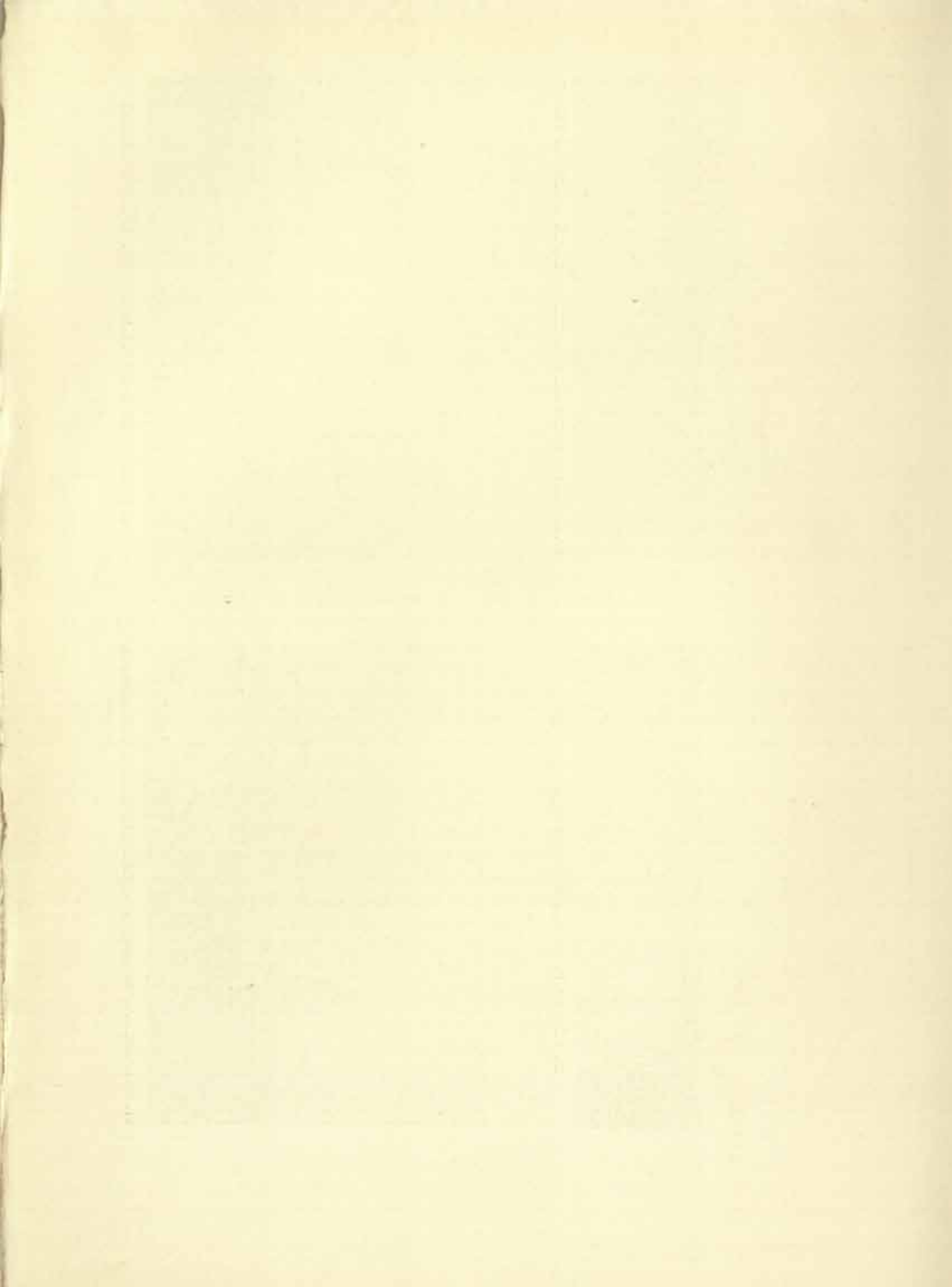
60. FORTIFIED RESIDENCE OF SHAIKH OF TĀHIRĪ WITH CAMP BELOW



61. MAIN COURT OF HORMUZ CASTLE, SEEN FROM CISTERN OF CITADEL



62. DEBRIS-COVERED SLOPES ABOVE PORT OF SIRĀF (TĀHIRĪ)



crenellated wall protecting its top still stands to its full height; a cannon lies embedded in the floor.

From this high bastion, which lower down may contain casemates no longer accessible, a large elevated terrace is reached adjoining the south curtain. From the remains of less massively built walls which cover it, it may be concluded that it bore quarters intended for officers, &c. On the northern (inner) edge of the terrace there is a very deep pit, semicircular on one side and lined throughout with hard reddish plaster, which probably was also a cistern. Local tradition takes it for a dungeon. Rather high up in one transverse wall still standing there are two *œil-de-bœuf* openings evidently meant for ventilation. Their elegant framing with neatly cut slabs of stone suggests care having been bestowed upon the construction of these quarters. From the eastern end of the terrace, close to where it overlooks the approach to the main gate, stairs lead down to a very large and high hall, now without a roof. From it the great central court of the castle is reached through a well-preserved double gate, with arches of carved slabs of red sandstone. High up two large windows splayed inwards give light to this hall. Could it have served as the chapel of the castle?

Even in its ruined state this Portuguese fortress bears impressive testimony to the firm resolve and thoughtful care with which the first European masters of Eastern seas had planted their foothold on this small island at the gate of the Persian Gulf. Considering the trying conditions of the climate and the utter barrenness of the ground outside, life could have offered little attraction to those who kept watch and guard over this base of maritime power. In the moist heat prevailing here even at this the least oppressive season of the year I could not think without dismay of the sufferings which life amidst these walls must have entailed for those who defended the castle before it fell in April 1622, after a two months' siege, to the combined attack of Persian land forces and English ships.⁴ Deficiency of water and food supplies, together with increasing sickness, helped to bring about surrender after a valiant defence.

Looking down from the height of the castle keep on the small village of fishermen and the dumps of red oxide and salt which now form the only commodities of trade on the island, it was difficult to realize how this barren rock, devoid of local resources and even of adequate water, could have held for centuries an emporium proverbial for its wealth throughout the East and West. An area about three-quarters of a mile in length and less than half a mile across,

⁴ A detailed account of this siege is to be found in the Portuguese narrative of Ruy Freyre de Andrada, recently translated and edited by C. R. Boxer, and published in 1930 by Messrs. G. Routledge & Sons in the 'Broadway Travellers' Series, under the title of *Commentaries of Ruy Freyre de Andrada*.

covered with crumbling walls and low mounds of debris, lies within some 500 yards of the south-western end of the village. This is all that remains of the rich city, the fine dwellings, extensive commerce, and opulent life of which are vividly described both by Oriental and European travellers, and the ruler of which, before the coming of the Portuguese, held sway over Masqat, Bahrein, and several other important islands of the Gulf.⁵ Yet the same accounts also emphasize the extreme scantiness of water and the necessity of bringing all victuals from outside. The difficulty about water and the excessive heat explain why even the poor miners and fishermen of the present day during the spring and summer seek relief on the mainland at Old Hormuz, i.e. Mīnāb, just as 'the Moors of position' did when Barbosa visited the island about 1518.

Among the mounds marking the site of the city there rise the ruins of two domed structures, one of them known as the *madrassa*. There are a number of roofed reservoirs, of moderate size, some old, some new or repaired, none of them holding water at the time of my visit. A few shallow wells, muddy at their bottom, which catch what scanty drainage descends from the bare boldly serrated hills to the south, were said to dry up towards the close of the winter. Wells and cisterns combined are barely sufficient to meet the needs for water of the present village, said to count about 200 homesteads. This bears out the statements about the dependence of Hormuz at the time of its greatness upon water brought from the coast. It also explains the labour bestowed by the Portuguese upon the construction of the magnificent cisterns seen within the castle. In shallow nullahs some small trees subsist, the only ones apparently to be found on the island, and by their side a little patch of ground showed signs of being cultivated in exceptionally favourable seasons.

All over this ground fragments of glazed pottery lay in abundance. The large proportion of porcelain, all manifestly Chinese, to be found among them, was significant of the role played by Hormuz as an entrepôt for Far Eastern imports, and also of the comfortable style of living adopted by a considerable portion of the population. Among the unglazed ware picked up were pieces with finely incised geometrical patterns produced from moulds, of exactly the same type as found at the sites of Old Hormuz, in particular at Qal'a-Sarāwān. In their case local production on the mainland is most probable. Such pottery debris of all kinds extends right down to the foreshore, and more of it may be covered by the sand of the beach or by water if the subsidence conjectured above has really affected the shore line of the island to any extent during the last three centuries.

⁵ Cf. Wilson, *Persian Gulf*, pp. 105 sqq.; Schwarz, *Iran im Mittelalter*, pp. 244 sq.

SECTION II—BY THE COAST TO TĀHIRĪ

After protracted delays due largely to the difficulty experienced in securing camel transport such as might be expected to take us at least as far as the port of Lingeh, we were able at last to leave Bandar Abbās by December 16th. My intention was to follow the coast-line as close as practicable up to Tāhirī, the site of the old port of Sīrāf, which had played a very important part in the history of Persia's maritime trade during the early Islamic period. There remains of interest, as yet imperfectly surveyed, invited examination. It was easy to foresee that this long journey of more than 300 miles along a barren coast, devoid of local resources and uninviting climatically even at this the most favourable season, was likely to be attended by more difficulties than usual in consequence of the prevailing famine conditions. But against this was to be set the opportunity it might offer of looking for relics of a maritime intercourse down the Persian Gulf more ancient than that which had so far been attested by historical or archaeological evidence. From Tāhirī I proposed to turn north-eastwards into the hill tracts of Lāristān, through which important trade routes from inner Persia had passed in the Middle Ages and later, but which in modern times had become difficult of access and remained in various respects unexplored.

On the initial portion of our journey progress towards Lingeh was greatly delayed by the rain so long vainly hoped for. It set in on the very first march, which took us along the narrow coastal flat beyond Bandar Abbās. Renewed at intervals it made the soft alluvial soil along the foot of the low hills skirting the coast troublesome ground for the camels. More serious was the risk of the two considerable river-beds which descend to that coast from the higher valleys on the north, being rendered altogether unfordable where they debouch into the sea. Fortunately the rain-bursts did not last sufficiently long to fill the wide beds and to inundate their deltas. All the same it took us seven marches before the second of those rivers, both salt in their lower courses and hence useless for irrigation, was safely crossed. Beyond this the higher hill range of the Band-i-Lingeh runs down with steep spurs of sandstone close to the shore, and here easier going is afforded, except at certain points where the passage at the foot of precipitous cliffs is practicable only at low tide.

The series of villages encountered along this portion of the coast are all small with the exception of Khamīr, where mining and burning of gypsum along the foot of the hills provides some trade. The groves of date-palms and other scant cultivation depend on the chances of rainfall. Drinking-water is collected here, as everywhere else along this arid coast, in domed reservoirs (*birkeh*; Fig. 75). Fortunately the recent rain had filled these and thus protected us from the more

direct consequences of the long preceding drought. But the famine produced by it had driven away a very large portion of the population to the island of Bahrein and the Arabian coast. What was to be seen of the rest strongly impressed me both here and farther on with the great preponderance of Arab stock in the population. Nowhere along the narrow coastal belt were old remains to be found; nor could I learn of any on the long island of Qishm, Nearchos's Oarakta, sighted across the narrow waters of the Clarence Strait, which the route up to the fishing hamlet of Birkeh Sufīn skirts. Before reaching this halting-place, and also at Sidār, some miles to the east of Khamīr, we found the narrow passage left for the track between the foot of precipitous rocky spurs and the sea closed by decayed towers and walls, forming a *chiusa*. But these bore no sign of any great age.

Two marches from Birkeh Sufīn brought us past Bandar Mu'allim, another hamlet almost wholly deserted, to Lingeh. Before reaching this once flourishing small port on Christmas Eve we passed the large fishing village of Kung, where, after the loss of Hormuz, the Portuguese had maintained a trading station of some importance for close on a century. Its history has been fully treated by Captain A. H. Stiffe.¹ Extensive low mounds close to the west of the village with remnants of walls extensively quarried for building material mark the position of the old settlement. But 'the old Portuguese factory, a large white ruined building', the walls of which still stood at the time of Captain Stiffe's visit (about 1857-60) though 'in a very tottering condition', could not be definitely located.

About half a mile to the north-east of Kung there stretches for about 600 yards close to the shore a flat sandy area covered with pottery debris. Judging from the numerous fragments found there of a very superior glazed ware and the total absence of structural remains above ground, it appears that the occupation of this site preceded the establishment of the Portuguese factory and dates from medieval times. Besides fragments of Chinese porcelain, perhaps too small for exact dating, and some pieces of decorated Persian ware, many pieces could be picked up of a very fine glazed ware in varying shades of brown and green, often with a mottled appearance and showing a ribbed surface. Some pieces are skilfully decorated with patterns in different tints of brown (Kung. 29, 33, 40; Pl. XXVI). It is likely that the curious story recorded from local tradition by Captain Stiffe, about an artisan of former times who manufactured very superior pottery with the good clay to be found near Kung, relates to this ware.

The town of Lingeh occupies open ground between the sea and a low, much eroded plateau stretching away towards the great salt marsh of Mihrakān in the

¹ See his paper 'Former Trading Centres of the Persian Gulf', *Geogr. Journal*, 1899, March, pp. 294 sqq.

north. Lingeh is more favourably situated for caravan transport towards Lār and Shīrāz, and is reputed to suffer less from excessive heat than Bandar Abbās. Hence it saw a considerable amount of trade in its port, including that derived from pearl fishing farther up the coast, until recent economic policy and other causes diverted most of this to Bahrein and Omān, leading to the rapid decay of the town. Many of the large houses to be seen in the broad streets of the town were deserted and crumbling into ruin. Here we were detained for four days, partly owing to severe malaria brought from Bandar Abbās by several members of my party and escort, and partly by the difficulty about transport resulting from the desertion of the owners of the camels which had been engaged at Bandar Abbās for the journey to Tāhirī.

The delay, however, could be utilized for the survey of a remarkable ruined fastness known as *Lēsbātān*, which local opinion was inclined to identify with the *Dēzbgān* named in Firdausī's *Shāhnāmā*.² It was reached at a distance of a little over 5 miles in a direct line to the north of the town, after passing across a desolate area of eroded ridges and terraces. These curiously recalled those I had seen filling the old terminal lake bed of the Su-lo-ho far away to the east of the Lop desert. Here the *mesas* consisted of high layers of clay overlain by crusts of calcareous sandstone; masses of this hard rock undercut by erosion had fallen and lined the foot of the terraces. The Qal'a-i-Lēsbātān proved to be one of the largest of these *mesas*. As the photograph (Fig. 63) shows, it rises boldly above the surrounding flat ground to a height of some 200 feet. It presents on the south side vertical walls of clay, which the top stratum of hard cretaceous rock covers and overhangs in places. No artificial defences were needed to make the plateau above quite immune from attack on this side.

On the north the slopes are covered to a considerable extent with fallen masses of rock (Fig. 65) and might be scaled, though only with difficulty. Hence the portions of the plateau edge have here been crowned with walls. These appear to have been originally built throughout with rough slabs of stone quarried on the spot and set in hard mortar. But in places where the upper parts of these walls have fallen or the original defences have given way altogether, owing to the precipitous nature of the ground or from some other cause, repairs obviously of later date have been effected with large uncut stones, as seen in Fig. 65, no mortar being used. This photograph shows in its centre the only gate of the fastness. It is approached from a narrow ravine which separates the defended plateau from a long lower ridge to the north. The ascent leads along a steep and difficult path over blocks of sharp-edged rock debris. The entrance,

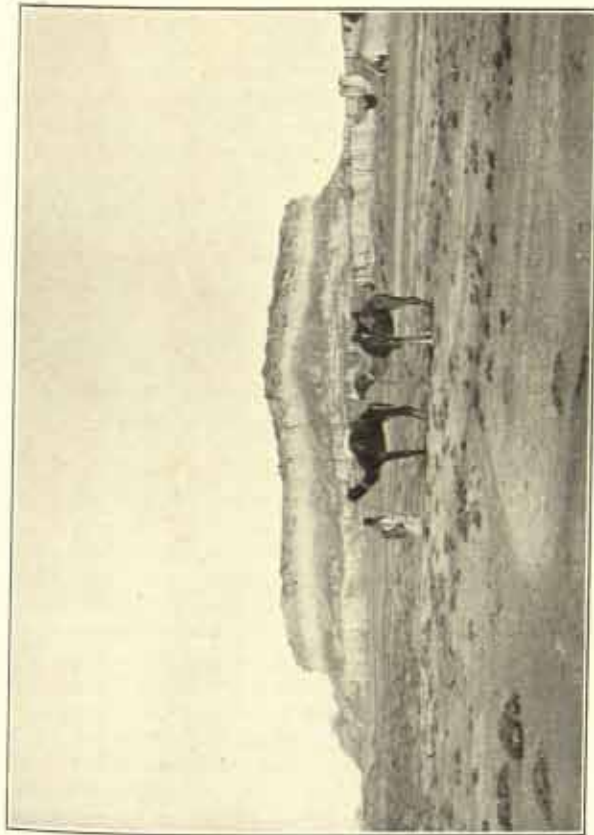
² A brief reference to this stronghold is found in Captain Stiffe's paper, *Geogr. Journal*, 1899, March, p. 295.

only 4 feet wide, is flanked by high and solid walls, the outer one forming a narrow barbican. In the flooring stone of the gate is seen a socket for the pivot of a single door.

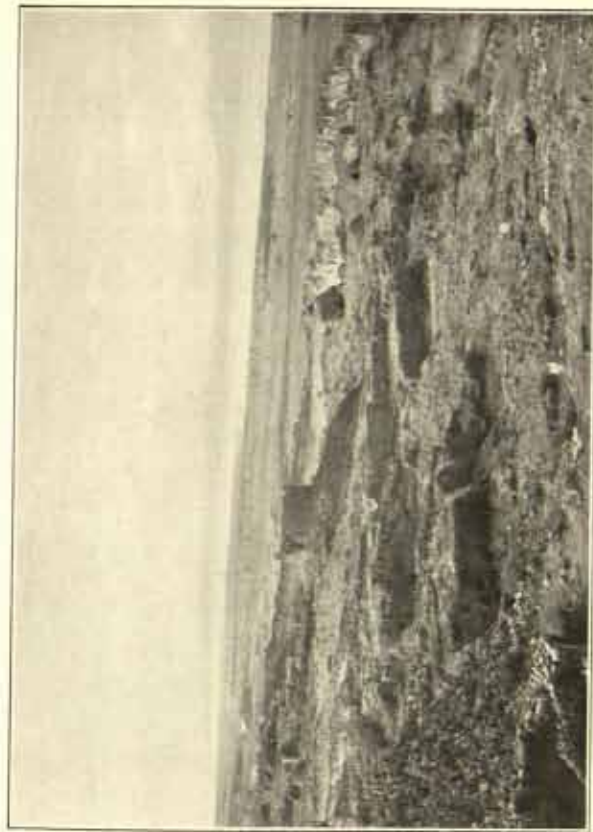
After passing through the narrow winding gateway a small piece of flat ground is reached which holds the main cistern of the stronghold. It measures 118 feet in length and 9 feet across, and was once covered with a barrel vaulting. As most of this has fallen in, the present depth of the cistern is only 11 feet. The sides are coated with a hard plaster which has remained in fair condition in this as in numerous other cisterns. The water once collected in the main cistern was furnished by the drainage descending in the nullah which, as seen in Fig. 64, cuts across the plateau approximately from south to north and runs down towards the gate. The flow of this drainage, no longer controlled, may be held to account for the gap now found in the defences to the west of the gate.

Proceeding along the wall to the north-west, a succession of ruined cisterns is met, mostly small and retaining but little of the domed superstructure which once covered them. Wall foundations up to 2 feet wide, found close to these cisterns, mark the position of modest dwellings, now completely decayed, which were meant to be served by their water. Most of these cisterns are circular in shape, with diameters varying from 5 to 13 feet, but some are oblong or square. All of them appear to have been excavated right through the hard calcareous rock which covers the top of the plateau into the underlying clay. It was the permeable nature of this soil which made plaster lining essential for the storage of rain-water; and the damage this lining has suffered in the course of time explains why none of the cisterns I examined held water. Altogether thirty-six of them were counted by us on that part of the plateau which rises to the west of the ravine above mentioned. Measurement by pacing showed the hill-top to extend about 520 yards from the precipitous edge at its western extremity to the eastern brink of the plateau, with a maximum width of some 260 yards measured along the ravine from south to north.

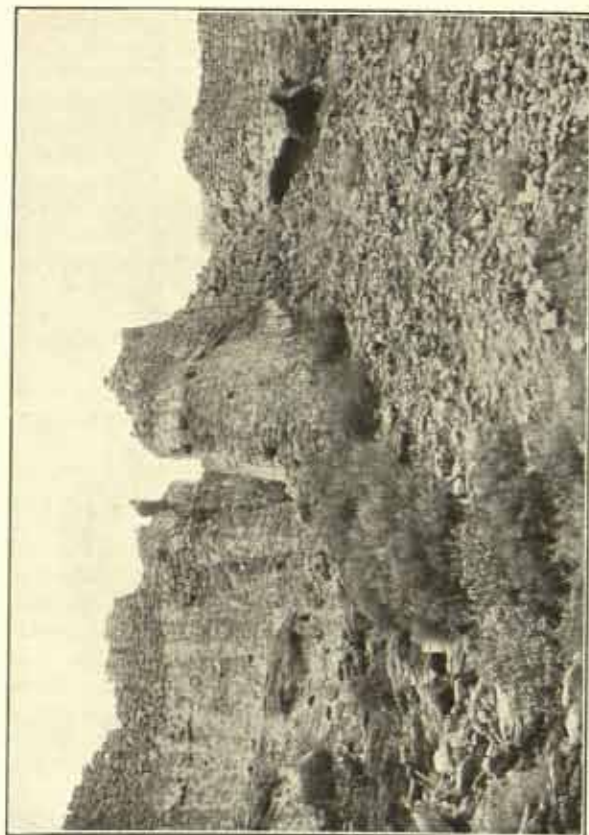
Along this shallow ravine and to the east of it, the remains of dwellings are found closely crowded together by the side of the tanks, and are very conspicuous (Fig. 64). They consist of wall foundations excavated from the rock floor, walls of small quarters coarsely built with uncut slabs of stone, and rooms of modest size cut into the stratum of cretaceous sandstone where it slopes steeply and is exposed. In numerous places natural cavities or overhanging shelves have been utilized for rough quarters. The cisterns counted to the east of the ravine brought up their total number to some seventy. Two of them of circular shape and about 10 feet in diameter still preserve their domes with remains of the covering plaster. Another higher up to the south measures 13 feet in diameter,



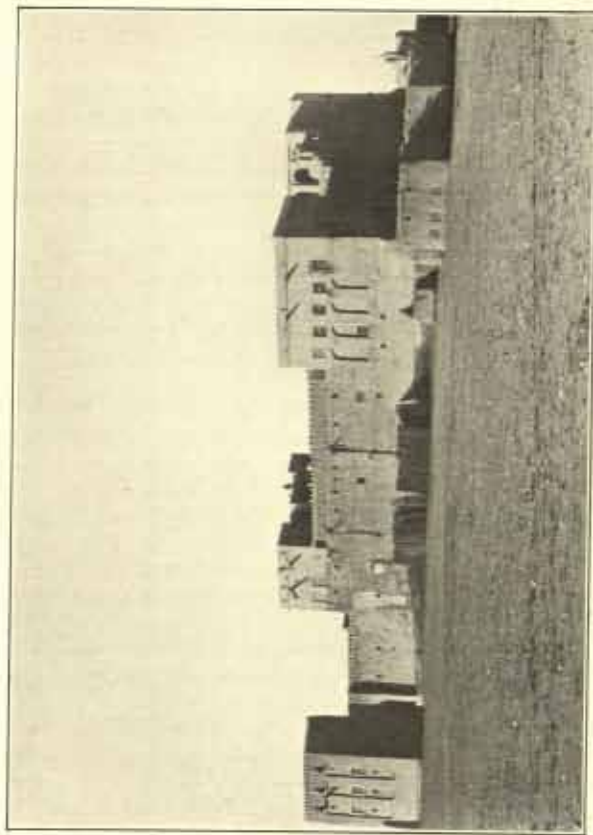
63. HILL STRONGHOLD OF LĒSHITĀN, SEEN FROM SOUTHEAST



64. VIEW ACROSS TOP OF QAL'A-I-LĒSHITĀN, FROM SOUTH



65. GATE OF QAL'A-I-LĒSHITĀN



66. FORTIFIED RESIDENCE OF SHAIKH OF CHĀRAK

and, in spite of the debris which has fallen in from its domed roof, is still 17 feet deep. Its sides show courses of cut slabs where the layer of soft sandstone needed strengthening. At one of the cisterns still retaining their domes, channels neatly cut into the adjacent rock surface show the care taken to collect all rain-water. At the north-eastern corner of the plateau an isolated rocky knoll contains a roughly cut small chamber, and at its foot on the east a row of small quarters cut into the rock extends for a length of 40 feet. Their outer wall is formed by live rock standing to a height of 4 feet and above this by rough masonry set in mortar. The end room has a shelf cut into the rock and two small windows splayed inwards.

A narrow rocky ridge close to the eastern edge of the ravine bears a small Muhammadan burial-ground. The graves, all orientated from north-north-west to south-south-east, are cut into the rock surface after the fashion observed at the Tiz cemeteries,³ or else they are practically superterranean, being formed by long slabs of sandstone placed along the sides and by others rising slightly higher at the head and foot. A second small cemetery adjoins the rocky knoll above mentioned, and a third is found close to the south of a ruined dome, of which the walls, 3 feet thick, still rise to a height of about 12 feet. This dome stands above the large cistern near the gate, and has an internal diameter of 21 feet. It can scarcely have been anything but a Muhammadan tomb. I may add that in the vicinity of the same cistern masses of shattered rock show where the walls of a complex of small quasi-troglodyte rooms have been thrown down in confusion, perhaps by an earthquake.

The evidence of the broken pottery plentifully found all over the plateau and particularly near the gate agrees with that of burial-grounds in pointing to prolonged occupation probably from early Islamic times. Besides glazed ware in plain blue and dark green, it comprises pieces showing incised scroll patterns under a mottled green glaze, such as found at Tiz and Giti. There are numerous fragments of a hard cream-coloured fabric showing coarsely painted patterns in a dark reddish brown (Lesh. 11, 13-15; Pl. XXVI), or else flat ribbing. Fragments of fine porcelain decorated in blue are obviously Chinese. Among the pieces of glass bangles, Lesh. 4 (Pl. XXVI), with small raised spots of yellow and green, deserves mention as recalling fragments similarly decorated from early sites in British Makrān.⁴ The elaborate construction of so large a number of cisterns makes permanent occupation certain during earlier times. But the previously noted coarse repairs of the defences point to the natural strength of the site having caused it to serve at a later period also as a temporary place of refuge for the inhabitants of the small hamlets scattered along the edge of the Mīhrakān marsh.

³ Cf. above, p. 89.

⁴ Cf. *Tour in Gedrosia*, pp. 63, 94, 123, &c.

As no other old remains were known to exist in the vicinity, it was a relief when, after protracted efforts, sufficient transport could be collected to allow us to resume our journey by December 29th. In order to make up for lost time I decided to move to Chārak, the next small port up the coast, by the somewhat shorter route which passes to the north of the rugged hills intervening between the Mihrakān swamp and the sea, instead of following the track along the winding coast-line. Though it took us three days to cover the distance of 50 miles to Chārak, yet the choice of route proved fortunate. For progress was much hampered by constant break-downs and desertions among our transport, now mainly donkeys, and had we proceeded by the barren coast, where cultivation is almost entirely absent, we might have been brought again and again to a complete standstill. As it was, help requisitioned from the small hamlets passed on the way made it possible to avoid this. In the end I had reason to feel thankful when, after five trying hours spent over crossing the last 6 miles of swampy ground and salt creeks before Chārak, the night of the New Year saw us and our baggage safely arrived at the little port.

Experience of the difficulties already encountered and with good reason to be foreseen ahead induced me, after a day's halt under the walls of the local Shaikh's castle (Fig. 66), to make our way to Bandar Muqām, the nearest small place on the coast with any resources, through the valley of Gulshān, which runs parallel to the coast and was believed to be less affected by famine conditions. The vicinity of the higher coastal range, the foot of which this hitherto imperfectly known route skirts, enabled useful survey work to be done on the next three marches; but opportunities for antiquarian work did not present themselves.

Bandar Muqām, which was reached on January 5th, is a small port serving the western valleys of Lāristān. There was again evidence of medieval maritime intercourse with India and the Far East to be seen in the shape of fragments of Chinese porcelain found among the debris of low mounds extending along the shore to the west of the local Shaikh's castle. Fortunately the young Arab chief still retained some authority. He was thus able to show his goodwill by providing such transport and efficient guidance, under the control of a trusted negro slave retainer, as enabled us to follow the route along the rocky coast to Shīū. It proved the most desolate ground so far encountered along the barren shores of the Gulf, and its difficulty and insecurity explained why this stretch of the coast had apparently never been surveyed. For the most part the track skirted the foot of steep and fantastically eroded sandstone cliffs, while in places it led across small inlets of the sea lined by slippery boulders, or over narrow rock ledges falling off steeply into the sea. Even here, however, in the small cliff-bound bay of Thehahīl, now frequented only by smuggling hillmen from the tract of

Gābandī, I found remains of a modest settlement of medieval times, which, as fragments of Chinese porcelain showed, had its share in the maritime traffic then extending from the Persian Gulf to the Far East.

The small village of Shīū, situated at the mouth of a little valley, was reached after a long and trying march. It serves trade with the extensive valley of Gābandī, which lies behind a low sandstone range running parallel to the coast, and affords more chance for cultivation than the rest of the long maritime tract known as Shibkōh. But it is only some four miles farther up the coast that good shelter for ships can be found in a shallow bay near the fishing hamlet of Ziārat. It was near this that we found old remains such as I had been told of before. Beyond a low but conspicuous ridge at the eastern extremity of the bay and known as Qalātu there stretches, between the steep foot of the ridge and the beach, for some 300 yards a debris area marking an old village site. The fragments of glazed blue and green pottery seemed to point to occupation in early Muhammadan times. No porcelain was to be found here. It was the same also at the far more extensive site of Borogla, which stretches along both sides of a small flood-bed holding brackish water, which reaches the sea about half a mile to the west of the hamlet of Ziārat. Here foundations of walls and stone heaps marking completely decayed dwellings cover an area about 800 yards long with a width of some 250 yards. Amidst plenty of coarse red or black pottery there were numerous pieces of glazed ware, blue or dark green, all without decoration in relief or paint. I could not find a single piece of porcelain. This negative evidence seemed to point to early occupation, possibly in pre-Islamic times. But nowhere along the coast were any indications of prehistoric settlement to be traced.

Local information could tell of no old remains to be found between this and the large bay of Naiband, some 40 miles up the coast, nor of any place where fresh transport might be hoped for. This induced me to take to an as yet unsurveyed route which would bring us into the valley of Gābandī and down this less arid tract again to the sea near Naiband. The valley was reached across a low but troublesome pass (Fig. 79) approached over exceedingly broken ground. The view obtained from above of the open plain at the bottom of the valley, green with scrub and fields freshly sown since the long-delayed rain, offered a delightful contrast to the desolate barrenness of the reddish-grey shore strip.

The fairly large village of Gābandī, which was reached on January 7th, proved well supplied with such goods as tea and sugar, smuggled from across the Gulf and very welcome to our party. But in spite of the help of a local Shaikh, recently released from detention at the capital, the usual difficulties about trans-

port remained to be faced. As, however, the people of Gābandī were justly credited with a bad reputation from their former raiding propensities, we had good reason to be satisfied with the fact that no untoward experience attended our passage through their valley. But the report received here about tribal unrest in the valleys beyond to the north-west conveyed the first warning of possible obstacles ahead. This was bound to give all the more cause for concern as the information I was able to collect here seemed to point to the existence of numerous old sites in the tracts of Galehdār, 'Alāmarv-dasht, &c., which I hoped to visit on my way from Tāhirī to Lār.

The mounds reported in the vicinity failed to present archaeological interest. One shown about 2 miles to the south-east from Gābandī village was small and had been dug into at several places for 'treasure'. These burrowings, however, disclosed only rubble-built walls of uncertain origin without any pottery remains. Another mound, known as Tal-targu, is situated to the south-west about a mile from the village. Rising to a height of about 20 feet, it stretches from north-east to south-west for a distance of about 320 yards and measures less than half that across. It proved to consist of the decomposed rubble of the same chalky stone as locally used for building houses. Sherds of coarse red or black ware could be found on the surface; also glazed pottery of light blue colour, which might possibly be pre-Islamic. But as a careful search did not bring to light a single painted fragment, the mound did not invite excavation.

I could learn of no other old remains on the two marches which took us over partially fertile, but, owing to the preceding drought, badly neglected ground, down to the hamlet of Khiāru near the mouth of the valley. Before reaching it we had to cross the winding channel of a perennial stream in which the drainage of the valley, higher up all underground, gathers and makes its way to the sea. That its water is brackish is in keeping with the general aridity of the climate and due also to the salt deposits found throughout the limestone range overlooking Gābandī from the north.

On January 10th, passing across the level plain, mostly scrub-covered waste, which adjoins the marshy edge of the wide bay of Naiband on the east, we reached the sea once more at the small port of 'Asalū. Its fort, held by a small detachment of gendarmerie, was the first post designed to assert control of the coast that we had met since leaving Lingeh.

Next day a long and interesting march took us along the coast to Tāhirī, and prepared us for the important old site ahead. Though fairly fresh water can be found in wells at several points close to the beach, no actual cultivation was to be seen after leaving the date-palm groves of Nakhli-i-Taqī, a couple of miles beyond 'Asalū, until the hamlet of Parak was reached some 5 miles before

Tāhirī. But we had scarcely covered more than 6 miles from 'Asalū to where the foot of the very steep and rugged coastal range recedes and leaves room for terraces rising close above the present beach when we came upon plentiful pottery debris, marking former occupation. On these terraces, divided by ravines and suggesting an earlier shore line, remains of rubble-built walls from decayed dwellings were to be seen for some 250 yards. At the western edge of this area, known by the name of *Haivanāt*, a ruined wall built with large rough blocks of stone runs for about 80 yards down to the shore. It looked as if meant for a *chiusa* blocking the track.

From a much-decayed oblong cistern situated about 2 miles farther on there extends a wide alluvial fan covered with abundant scrub and known by the name of *Chāh-kaur*. For a distance of more than a mile indications of former occupation could clearly be traced. First, over some 500 yards there extend rubble-built walls of ruined dwellings. Between them we found the debris of ancient pottery of a peculiar type, mostly of dark-red colour, often ribbed and always very thick and hard. Then, farther on, the place of these ruins is taken by what evidently were terraced fields divided by similar walls, also much decayed. Potsherds of the same type could be found here, too, in places, and with them also a few fragments of plain glazed green ware. A small Muhammadan cemetery found beyond a small ravine intersecting the terraced fields was marked by decayed stone heaps and looked coeval. The width of this area of old cultivation where we left it and descended to the track leading along the beach was close on half a mile.

About $1\frac{1}{2}$ miles ahead, plentiful pottery debris of the same type marked another small area of habitations. Thence terraced fields divided by old walls of large stones were found to stretch continuously for a mile or so, along what could clearly be recognized as an earlier shore line, rising some 25–30 feet above the present beach. Not far beyond the northern end of this once-cultivated stretch of ground we came upon the first of a series of ancient kilns, where broken pottery of the above-described type lay in abundance. The position close by the shore of a small bay must have been very convenient for shipping this ware. Near by, at the side of a ravine, two ruined cisterns of oblong shape were to be seen, one measuring 12 feet across, both of which had at one time been covered by vaulting.

It was the same also at a group of other old kilns met about $1\frac{1}{2}$ miles farther on. There, too, sherds of the same dark-red fabric, very strong and mostly showing the characteristic ribbing (for specimens see *Chāh-kaur*, 7–9, Pl. XXVI), lay strewn right down to the beach. There was plenty of this ware to be found among the ruins of *Sīrāf*. No doubt it was the chief local product which this poor strip of coast could ever have supplied to the great medieval

emporium, the site of which we were bound for. Thither our baggage had moved ahead, while the examination of the remains just described detained me. Following it in the dark, we passed the hamlet of Parak. Finally, after having covered a total distance of 28 miles, we arrived at the wretched fishing village of Tāhirī, and, passing it, were able to pitch our camp on an old walled-up terrace below the fortified mansion of Shaikh Hāṭim, the local chief (Fig. 60).

SECTION III—THE SITE OF SĪRĀF

Immediately to the west of Tāhirī village there stretch for a distance of fully a mile and a half (see Plan 17) the remains of the town of Sīrāf. From the accounts of Arab geographers Sīrāf has long been known to have been the chief centre during the early Muhammadan period for the maritime trade of the regions adjacent to the Persian Gulf with India and the Far East. The location of Sīrāf at the ruined site of Tāhirī was first recognized by Captain Kempthorne of the Indian Navy.¹ It is fully borne out by the descriptions, more or less detailed, to be found in the works of writers who knew the town from the time of its great prosperity down to that of its rapid decay after the destruction caused by a great earthquake about A.D. 977. As a full and lucid synopsis of these accounts is readily accessible in Sir Arnold Wilson's *Persian Gulf*, and as accurate modern translations of the essential ones have been given in Professor P. Schwarz's work often quoted before,² it may suffice here to reproduce those details which have a direct antiquarian or topographical bearing.

Sulaimān the Merchant (about the middle of the ninth century A.D.) already knew Sīrāf as the port where the Chinese ships trading to the Gulf took in their cargo.³ Iṣṭakhrī describes Sīrāf as a town 'almost as large as Shīrāz. For the building of houses teak wood and wood from Zanj (Zanzibar) is used; they have several stories. The town lies on the sea coast, is very closely built and very populous.' He refers to the extravagant sums spent by merchants on their houses. 'There are neither gardens nor woods in the vicinity. The fruit and the best drinking water is brought to the town from the mountain of Jamm which lies above the town and is the highest point in the neighbourhood and like the hills of the cold region. But Sīrāf is the hottest town in the country.' Elsewhere he describes 'Sīrāf as the chief port of Persia. It is a big town in which only houses are to be seen until one gets over the hill overlooking the town. There is no iced water, no cornfield, no milk, and yet it is the richest town of Persia.'

¹ Captain G. B. Kempthorne visited Tāhirī in 1835; see his paper in the *Transactions of the Bombay Geographical Society*, 1856-7, vol. xiii (March), pp. 125-9.

² Cf. Wilson, *Persian Gulf*, pp. 94 sqq.; Schwarz, *Iran im Mittelalter*, pp. 59 sqq.

³ For an early record of trade from Sīrāf to India, by Ibn al-Faṭīh, cf. Schwarz, *loc. cit.*, p. 61.

He mentions the abundant oversea imports which made Sīrāf the chief emporium for them, and refers to its merchants as the richest in the whole of Persia.

When Muqaddasī wrote his account of Sīrāf towards the close of the tenth century, its decline as a great emporium had already begun; still he praises the splendour of its houses. But a severe earthquake about A.D. 977 had caused great damage to the buildings. Already many of its inhabitants had left Sīrāf for other ports. 'In consequence of the great heat Sīrāf is a gate of hell. Water has to be brought from a great distance; only a small conduit supplies fresh water. Also fruit-trees are rare. The town is situated between the hills and the sea, the surroundings are not cultivated and only a few date-palm groves are found near by.' When Yāqūt visited Sīrāf early in the thirteenth century it had already lost its trade to the new emporium established on the island of Qais, and had fallen into ruin. He notes its being known to traders by the name of *Shilāw*, and mentions having found 'there only some very poor families whom solely the love of their native soil retained there'. He saw there 'the remains of remarkable edifices as well as of a fine mosque with columns of teak wood. The town lies at the foot of a high mountain. . . . The inhabitants get their drinking water brought by a conduit from a spring of fresh water.' The town lay closely confined between the mountain and the sea, the distance from the sea being at all points less than an arrowshot. Yāqūt notes quite correctly that ships did not find at Sīrāf a proper harbour, but in the case of stormy weather had to seek a safe anchorage in the bay of Naiband.

The accuracy of all topographical details recorded by these Arab geographers was fully borne out by the observations made in the course of a careful survey of the ruined site, as shown by Plan 17 and the photographs reproduced.⁴ But their descriptions of the great wealth of Sīrāf and the opulence displayed in the mansions of its merchants made the contrast presented by the picture of utter desolation now prevailing at the site all the more impressive. For a distance of fully a mile the sea-shore is adjoined by terraces rising, at first gently and then steeply, all overlaid by shapeless debris heaps from stone-built houses, right up to the narrow crest of a rugged limestone ridge which to the east attains a height of more than 300 feet. It would have been difficult for me to realize how this town could have held within the narrow space available so large a population as those accounts indicate, had memory not recalled the narrow lanes closely packed with tiered high houses I had seen at similarly situated old ports on the Genoese Riviera.

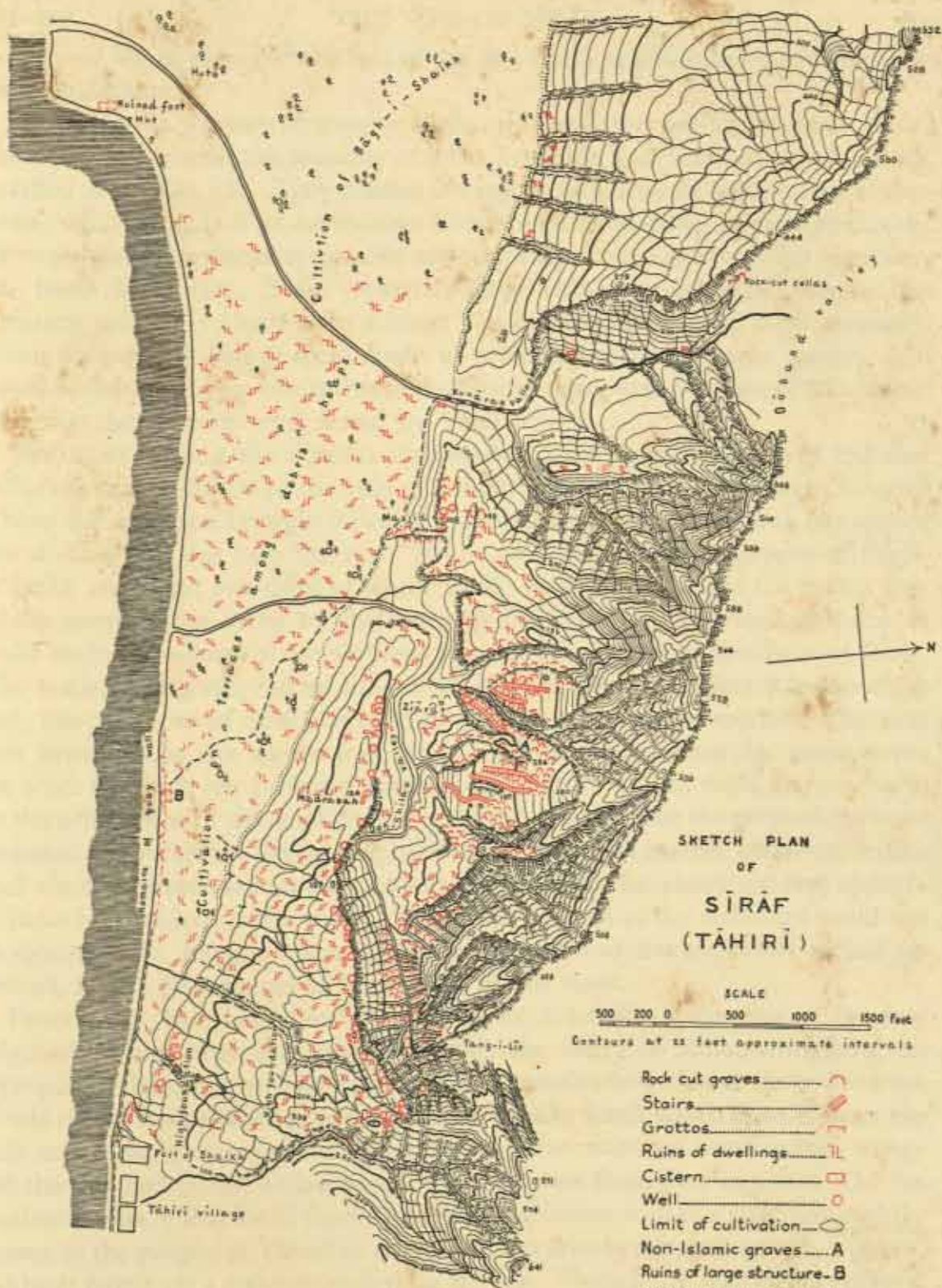
⁴ A brief account of the ruins of Sīrāf, somewhat speculative in certain details, is contained in a paper by Captain Stiffe, 'Ancient Trading Centres

of the Persian Gulf', *Geogr. Journal*, 1895, Aug., pp. 166-73.

The area occupied by the ruins of the town, as seen in Plan 17, extends from a ravine descending to the shore near the Shaikh's fort approximately as far west as the dry bed of a torrent which carries the drainage of the high coastal range to the north of the Dōband valley, and thence in the narrow winding gorge of Kunārak breaks through the bare hill chain overlooking the rock-cut cemeteries of Shilau to be described farther on. An outlying limestone ridge below the Tang-i-Līr divides the small valley of Shilau from the town area proper. Where the foot of the ridge descends with an easy slope to the shore, and the presence of comparatively shallow wells permits of irrigation, the ground has been partially cleared of the debris of ruined houses and laid out into fields and scattered small date-palm plantations. At its western edge, near the mouth of the Kunārak gorge, this portion of the site attains its greatest width of approximately 600 yards. All over this area, as seen in Fig. 62, the material furnished by decayed walls, built throughout with unhewn stones and mortar of gypsum, has been utilized for roughly terracing the slopes wherever cultivation is made possible by well water. The deposits of ancient refuse contained in the soil help, no doubt, to make these patches of ground fertile.

The destruction of the buildings that once occupied the whole of the slopes right up to the crest of the ridge has been so complete that no structural features can be traced on the surface. Only remains of walls built to support terraces for houses can be made out here and there (Fig. 76). These are best seen on the sides of small ravines descending from the ridge, where particularly solid construction was needed. The greater height of the debris heaps lining the southern edge of the ruined area immediately above the shore suggests that this sea front was occupied by large and particularly solid buildings.

But the only structural remains traceable here without excavation are those of what, I think, must have been a quay wall (Fig. 69). They extend for a length of fully 450 yards, as shown in the plan, and stand in places up to some 15 feet in height. The outer wall facing is constructed of unhewn stones set with mortar in regular courses. An interesting feature of this 'sea wall' is the succession of projections, generally triangular but some also semicircular, which survive for the greater part of its length. They are too near each other to have served any defensive purpose apart from strengthening the wall in the fashion of buttresses against the buffeting of the waves. This explanation is supported by the fact that when the tide is in, the water approaches to within a few yards of the foot of the wall, and also by the total absence of indications that the town was protected by defences anywhere on the land side. Similar triangular projections were noticed at a small outlying fort to be presently mentioned, and there, too, only where it faces the sea. Pottery debris of the same type as found all over the



PLAN 17



town area lay in plenty at the foot of the 'sea wall', in places being embedded in the foundations.

Towards the western extremity of the still-surviving portion of this sea wall there are to be seen the remains of what evidently had been a large building, marked *B* in Plan 17. They consist of huge blocks of stone and masses of concrete, which look as if an earthquake had thrown them down in utter confusion. Between these remnants of massive masonry there are to be seen what obviously are bases for pillars. They consist of large oblong stones set in mortar and measure uniformly about 2 by 3 feet. The building appears to have measured about 55 yards in length from north to south and some 25 yards across. Is it possible that this large ruin is that of the 'fine mosque with columns of teak wood' of which the remains were noted by Yāqūt?⁵

Before describing the observations made on the higher portion of the site, reference may be made to the ruin of a small outlying walled enclosure situated where the alluvium brought down in the torrent-bed of the Kunārak has caused the shore to jut out into the sea. It lies near the date-palm groves of Bāgh-i-Shaikh and about one-third of a mile to the west of the limit of the debris area of the town. Here, close by the beach of the little bay, are seen remains of walls enclosing a court about 42 yards square. It is known by the name of Bang. The walls, best preserved on the east and north faces, are 3 feet 9 inches thick and, like all those of Sīrāf, built with unhewn stones set in mortar. The east face towards the sea shows four fairly well-preserved triangular projections, the sides of which are 19 feet 6 inches long (Fig. 70). As these are not found on the other faces of the small fort, it may be concluded that the projections were intended to strengthen the face exposed to the waves. A smaller enclosure with a wall similarly protected on the east side and traceable for about 100 feet appears to have been added on the south. The exact purpose of the structure could not be determined. Judging from the masonry used and the potsherds picked up around, it may be assumed to be coeval with the town.

Proceeding from here north-eastwards we reach the extremity of the low ridge which separates the town area from the valley of Shilau containing its necropolis. Before, however, describing the remains to be found along the crest of this ridge, I may briefly notice those on a rocky knoll which faces it from the west and occupies most of the space between the mouth of the Kunārak gorge and the dry bed of the Shilau nullah that descends from east to west. On the southern slope of that knoll there rises the conspicuous ruin of a structure rightly known to the people of Tāhirī as a mosque. As seen in the photograph, Fig. 68, it is built partly on a massive walled-up terrace. Though the walls have suffered

⁵ See above, p. 203.

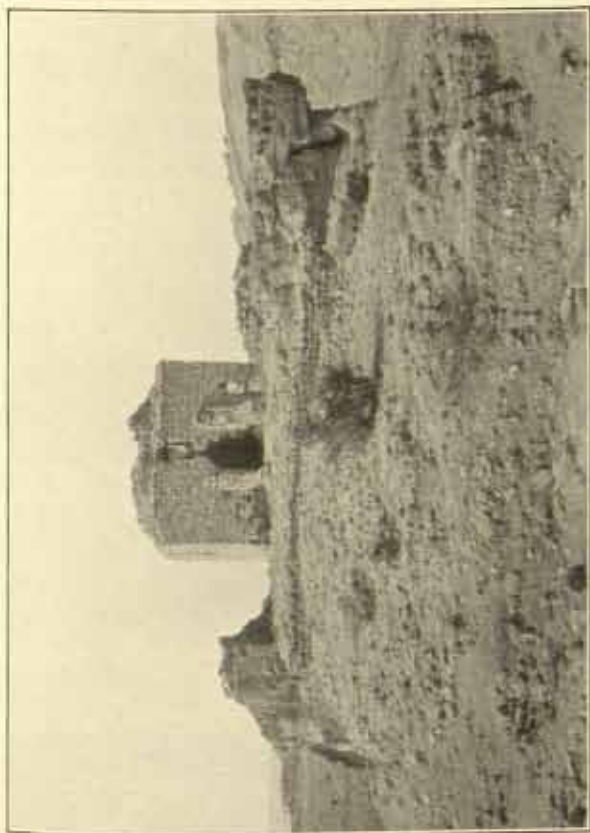
much damage, the structure as a whole is in so much better condition than the rest of the buildings of the town that its being of later date can scarcely be doubted. The local tradition, which ascribes to it an approximate age of six centuries, supports this conclusion.

The ruined mosque, with its entrance facing north-east, shown in Fig. 68, contains a central hall 27 feet 6 inches wide; if its badly broken arcaded south-western end, orientated towards Mecca, be included, it was probably of the same length. On either side are two shallow niches divided by semi-detached columns and having an oblong narrow window high up under their pointed arches. The entrance, which is 7 feet wide and 8 feet deep, is adjoined on either side by a small room measuring 8 by 12½ feet, and is approached through a porch also 7 feet wide. The porch is provided with seats on both sides under small niches, and its ceiling still retains stucco decoration with geometrical tracery. Judging from the style of this decoration and the survival of stucco elsewhere on the walls, it seems difficult to believe that the structure as it now stands can be earlier than the fifteenth to sixteenth century. But the massive substructure of the terrace which bears the mosque looks distinctly old. An outer room adjoining on the north-west holds a large tombstone, now upturned, bearing an inscription in Kufic characters.

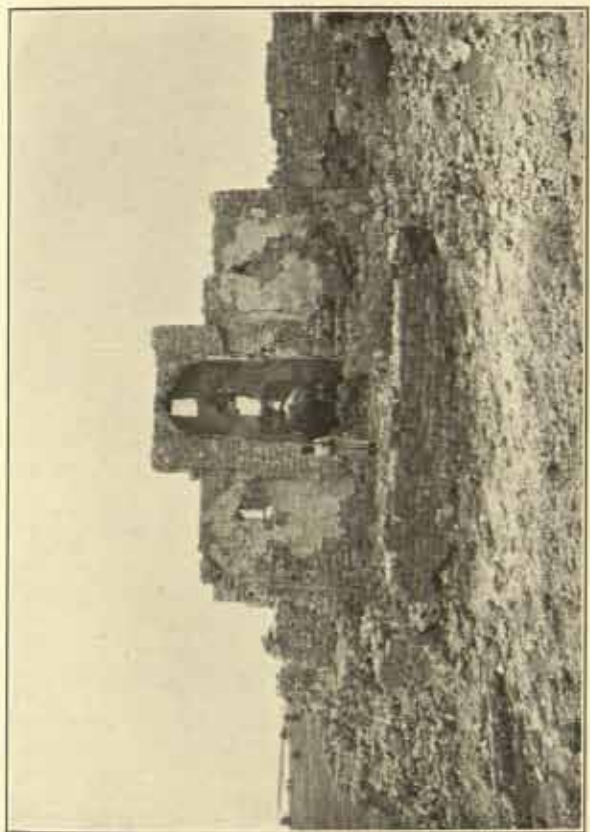
Along precipitous ledges of the same knoll, both to the west and south of the mosque, there are to be seen rows of graves cut into the rock. Many of these are partly destroyed owing to the rock having crumbled away, a sign of the long period that must have elapsed since they were used for burial. Higher up on the knoll a steep ridge to the north contains more rock-cut graves, among them three that manifestly had remained undisturbed. On examining one of them, 1 foot 6 inches wide on the surface, we found at a depth of 3 feet stone slabs, 9 inches wide, covering the opening of the grave proper, and to the right a shelf of the same width cut in the solid rock. Of the body interred only a few decayed bones survived. The construction of the grave corresponded exactly with that of the graves found at Tiz.⁶ The graves were orientated from north-west to south-east, though, being undoubtedly Muhammadan, they ought to have lain in the orthodox north and south direction. I shall have occasion later to refer to similar irregular bearings observed at the great cemeteries of Shilau. On the same ridge lay scattered half a dozen coffin-like tombstones, most of them broken or upturned, all bearing Kufic inscriptions. Fig. 81 shows the best preserved of these.

Crossing the depression in which the dry torrent-bed of Shilau bends southwards to the sea, we ascended the crest of the ridge which overlooks the main

⁶ Cf. above, p. 89.



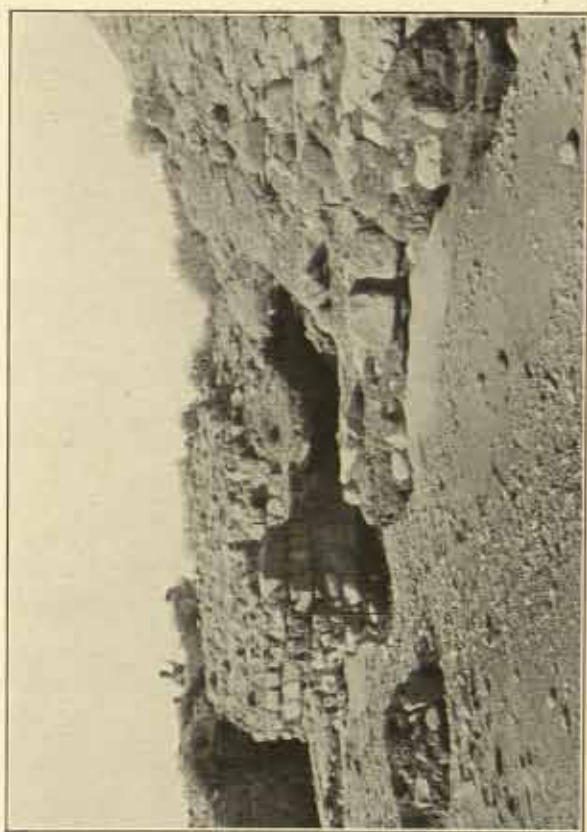
67. RUINED STRUCTURE KNOWN AS 'MADRASA', SĪRĀF,
SEEN FROM EAST



68. RUINED MOSQUE, SĪRĀF, SEEN FROM SOUTH-EAST



69. RUINED QUAY WALL OF SĪRĀF PORT



70. SEA-FACE OF RUINED FORT, BANG, SĪRĀF

portion of the town site. The crest rises, as Plan 17 shows, at first gently to an elevation of about 200 feet, and then more steeply to a knoll, marked 333 feet on the plan. There the debris heaps from ruined walls of dwellings stop. All along the crest extend shapeless remains of decayed houses, closely packed on the lower parts of the ridge where more fairly level ground could be found, and at short intervals where the slope becomes steeper. At numerous points, marked in the plan, are circular wells and cisterns cut into the rock. One of the latter, measuring 51 by 10 feet and 17 feet deep, still retains a portion of the vaulted roof, such as had originally covered all of them. The depth to which the wells had been sunk here may be judged from the fact that some of them are located at elevations from about 230 to 300 feet above sea-level. One of the highest wells measures at its mouth 9 feet in diameter, another proof of the immense trouble taken to utilize even such difficult building ground. To draw water from wells of such depth must have involved great labour, and this may explain the provision of cisterns, sometimes placed quite close to them, which could be used instead, provided there had been enough rain ('water of grace', to use the modern Persian expression) to fill them.

At a point on the lower portion of the ridge, about 125 feet above sea-level, there stands a conspicuous square structure, locally known as the *madrassa* (Fig. 67). It is built, as all the houses of Sīrāf were, with rough stones set in mortar. Its comparatively fair state of preservation, in contrast with the complete decay of other buildings of the site, distinctly points to its being of later date. The walls measure 21 feet along their outer surface. The entrance, which is provided with a porch, faces east. The interior consists of a hall with arched recesses on three sides, those on the north and south having a small niche in the centre and a window, 2 by 3 feet, at a height of 7 feet above the floor. The niche to the south admits light only by a narrow opening like a loophole. Four squinches carry a circular drum on which a domed roof, now fallen, had rested. Much of the stucco plastering still survives, and this, together with the thin pieces of timber still found in position at the top of the windows, seems to necessitate a late date being assigned to the structure. It may have been intended to contain a tomb, but I could find no remains of such on the broken floor.

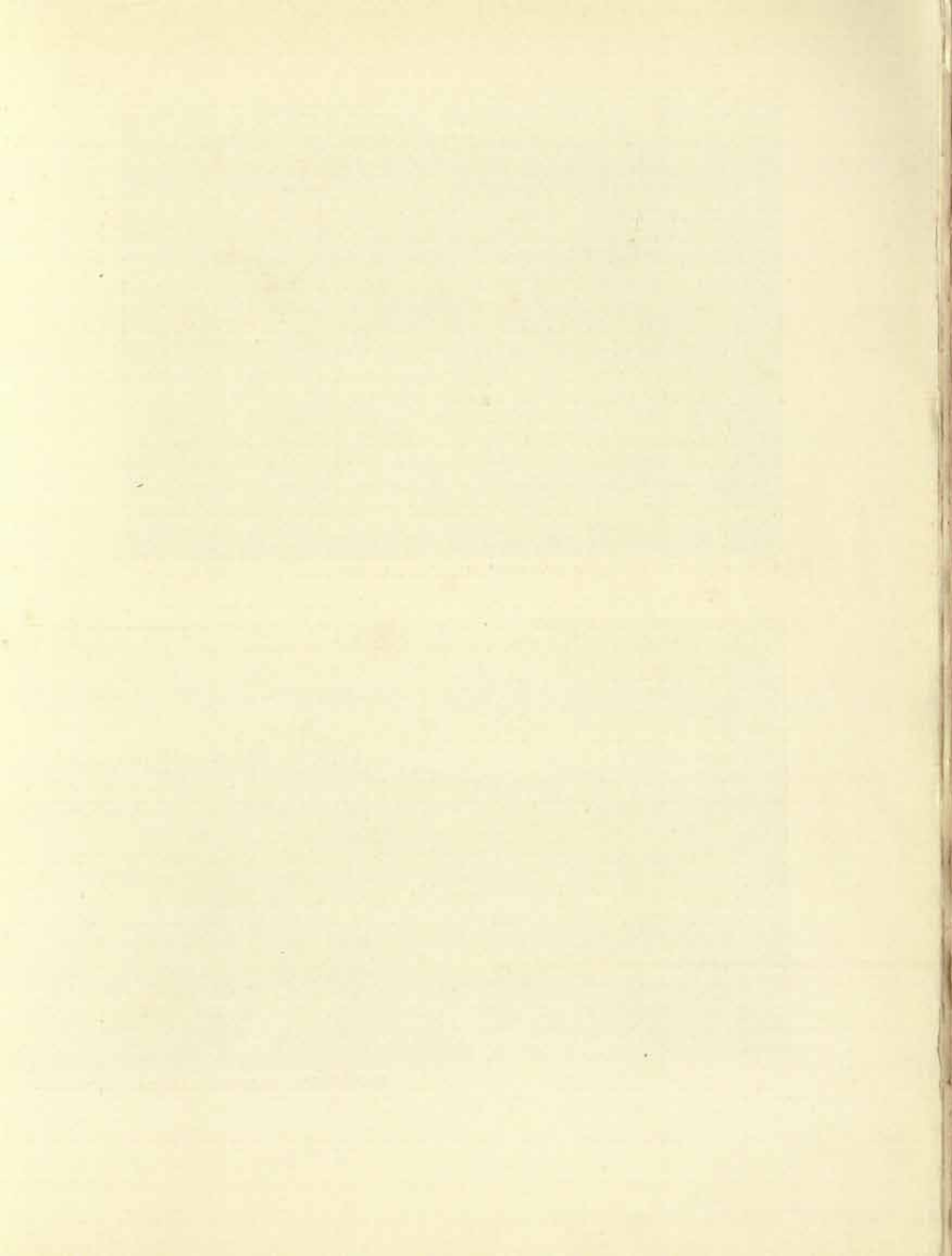
Even more impressive than the picture of utter decay to be seen at what was once a thriving town of the living was the view gained from this hill-crest of the great necropolis in the valley behind it, known as Shilau. The panoramic view reproduced in Fig. 73 shows it in its forbidding barrenness and desolation. All over the bare lower slopes of the rugged hill range, which rises to a crest line from about 500 to 600 feet above sea-level, hundreds of rock-cut graves and grottoes are to be seen. Owing to their very great number and the

irregular distribution of their groups, a survey on a much larger scale than the available time permitted would have been needed to indicate their position in accurate detail. But reference to Plan 17 and the panoramic view will show that the necropolis extends over a great portion of the slopes from above the bottom of the valley to an elevation approaching to close on 300 feet. The steep rib-like spurs which descend the slopes and separate their eroded ravines seem to have been specially chosen for the allocation of irregular rows of graves; perhaps, because the rock surface exposed there facilitated cutting or because the position afforded protection against the risk of graves being washed out by heavy rain. It is a natural consequence of the narrow space available along such spurs that the alinement of the graves should vary greatly, as clearly shown by the photographs.

A different aspect is presented by the western portion of the necropolis where, as shown by Plan 17, gentler slopes, with the rock surface laid bare by erosion, afforded convenient room for a large number of graves being grouped in closely serried rows in regular cemeteries. The photographs reproduced in Figs. 71, 73 show the two most striking of such cemeteries, marked *A* in the plan. They stretch up on either side of a deeply eroded ravine at the mouth of which lies a modest *ziārat* surrounded by modern graves. Broad stairways cut into the rock lead up to and through the systematically laid-out graveyard on the western side of the ravine and are seen in Fig. 71. Short stretches of stairs on the eastern side of the ravine could also be traced, though less clearly, to facilitate access to the graveyard. Three flights of such stairs were observed also in the area farther to the east, less closely covered with graves, of which a portion is seen in Fig. 73.

Though, as already noted, considerable deviations from the orthodox north to south direction occur in many graves, yet there can be no doubt that the vast majority of them were intended for the last rest of the Faithful. But the fact that in the eastern graveyard the graves without exception are all regularly alined west to east was bound to attract attention. I counted there altogether some 375. A considerable number of them were found quite empty; others were filled right up to the rim with earth and pebbles, probably washed down from above. Only over comparatively few there lay broken pieces of sandstone, obviously remains of covering slabs. All graves examined had a groove or rim at the top cut into the rock on each of the longer sides, meant to hold such slabs. The walls of sandstone, a kind of soft conglomerate, dividing the graves were only 4 to 5 inches thick, while any small spaces left here and there between the closely arrayed graves had evidently been utilized for graves to bury children in.

The whole arrangement showed that the area had been systematically laid out under one direction, and with special regard to economy, but not necessarily at

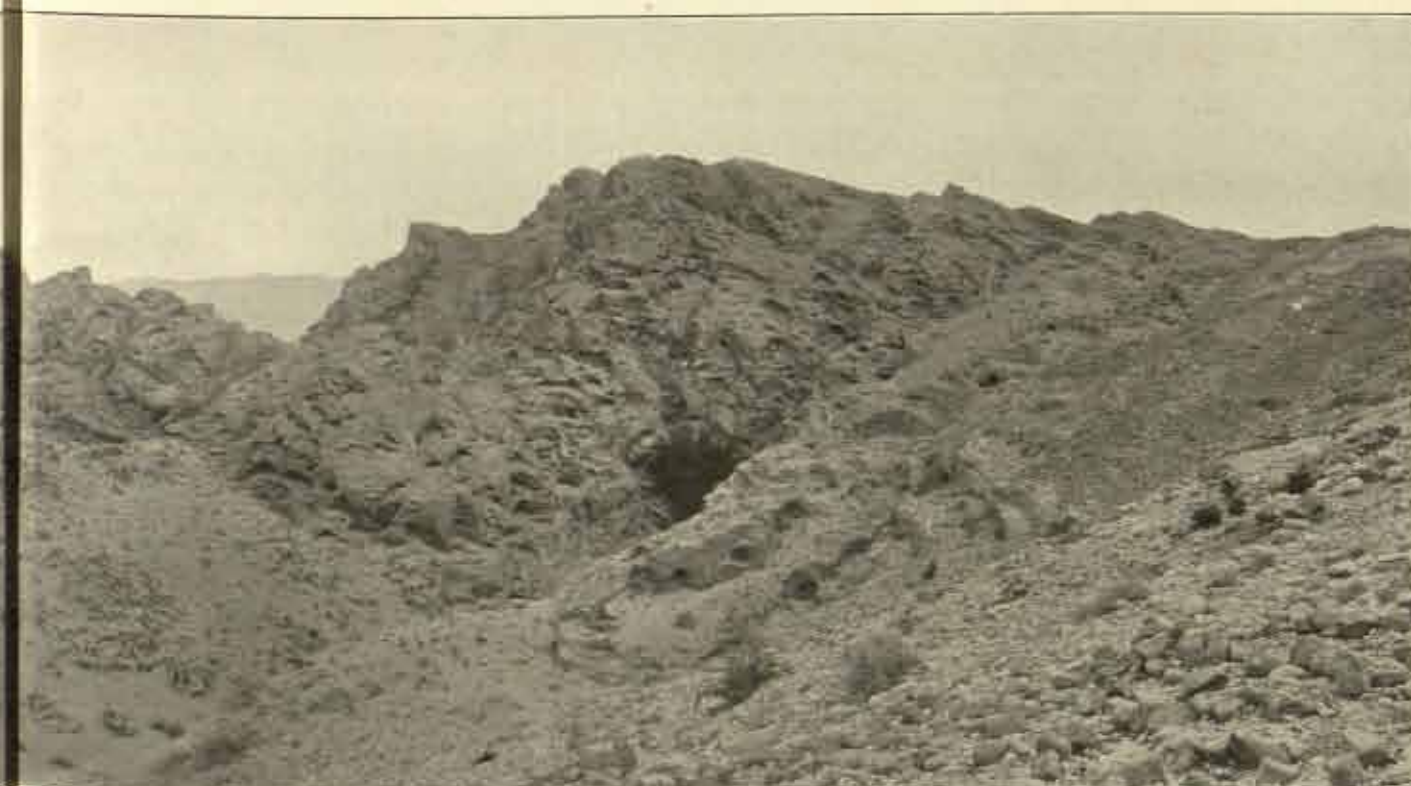
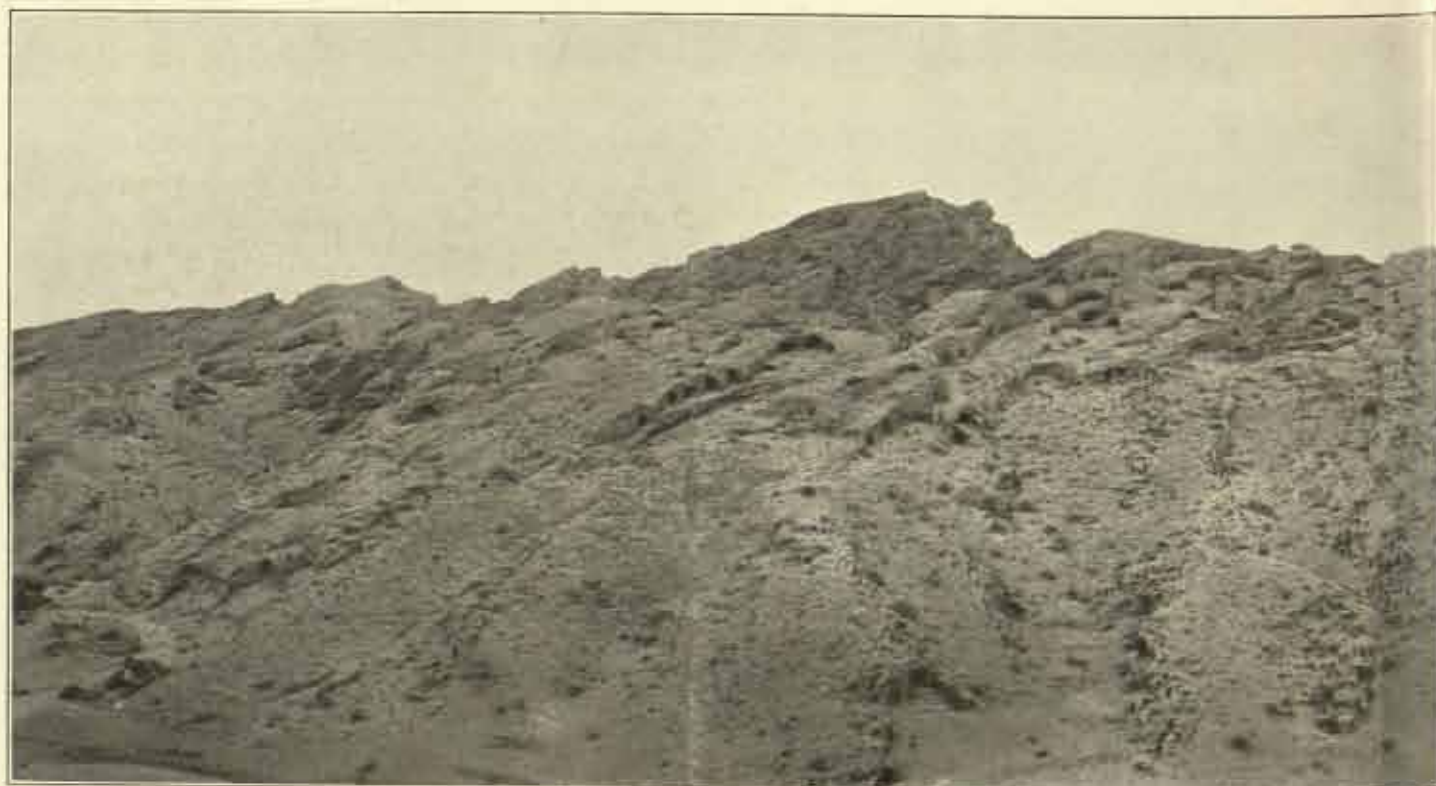




71. ROCK-CUT GRAVES AND STAIRS OF GRAVEYARDS, A, ALSO GROTTOS, SHILAU VALLEY



72. ENTRANCE OF TANG-I-LIR, WITH GROTTOS, SHILAU VALLEY



73. PANORAMIC VIEW OF SHILAU VALLEY, THE NECROPOLIS, LOOKING NORTH FROM RIDGE ABOVE RUINED TOWN

the same time. At the very top of the area some cutting had been done for three graves which had never been finished. One grave near the middle of this cemetery, on being carefully cleared to the bottom, proved to be filled from the surface downwards with detritus and sand. Apart from this, only completely decayed fragments of rotten wood were found, which probably belonged to a coffin. The length of the grave was 6 feet 10 inches, its width 2 feet, and the total depth 2 feet 3 inches. A groove 3 inches wide was cut at a depth of 6 inches on both the long sides, meant to hold the covering slabs. The same arrangement was noted in the graves found empty or half-filled. Nowhere did I observe the previously described mode of Islamic burial by which the body was laid to rest under a rock shelf.⁷ On the whole, the evidence points to the conclusion that this cemetery had served a non-Islamic community, and as the same east to west direction is still customary for graves among the small Jewish communities found along the coast, it appears probable that this eastern graveyard was laid out by Jews settled at Sīrāf.

It remains to be noted that within the area of this graveyard there are seen (Fig. 71) two natural rock pillars rising to a height of approximately 10 to 20 feet. They are obviously 'witnesses', which had somehow escaped erosion and have for some reason been cut into a tower-like shape. The one to the north contains a regularly cut cavity intended to serve as a kind of crypt. It measures 7 by 4 feet and has a height of 4 feet from above the entrance. A cemented flooring, partially preserved, divided the little chamber from a lower crypt. There are remains of a rough cemented wall once closing the entrance facing east. On the top some masonry remains could be made out which may have belonged to some form of monument.

All over the slopes to the north of the Shilau valley, as shown by the panoramic view (Fig. 73), there are to be seen shallow grottoes honeycombing the steeper rock faces. They are to be found also on the other side of the valley near where it turns eastwards into a very narrow winding gorge, known as Tang-i-Līr. Many of them appeared to be natural cavities due to peculiarities of the rock formation or to erosion. But two small grottoes I was able to examine near the entrance of the gorge showed signs of having been roughly cut into the rock. In one of them there were found two small bones, apparently human phalanges, in the other nothing besides dust and loose stones. Neither at these nor at other grottoes could I see any trace of their having been walled up. All the same there is a possibility of such natural cavities having been used for the deposit of human remains, perhaps of bones from bodies previously exposed to birds and beasts in compliance with surviving Zoroastrian practice.

⁷ See above, pp. 89, 206.

No burial cairns were recognized by us on such portions of the slopes as we were able to examine; but such could not have been easily distinguished from the debris heaps of decayed dwellings which were scattered in plenty over easier ground within the necropolis area. It might also be assumed, perhaps, that the grottoes were occupied by the poorer population of the port.

At the entrance of the gorge known as Tang-i-Līr and made conspicuous by a large *bōr* tree growing there (Fig. 72), two massive towers mark the places where the water, once conducted on either side of the gorge in aqueducts and short tunnels, was discharged to drive millstones (Fig. 74). The drop of 20 feet or so to the foot of these towers suggests that the available volume of water was limited. The remains of walls over which the conduits were carried could be traced for some distance up the gorge, which higher up has been filled in places by large masses of fallen rock. Whether Muqaddasī's and Yāqūt's mention of a conduit supplying Sīrāf with fresh water refers to this aqueduct or to a small canal traceable in the Kunārak valley, it is impossible to decide. Nor could I obtain local information as to the spring, or *qanāt*, from which water is likely to have once been brought down into the Tang-i-Līr.

Half a mile from the head of the gorge, turning westwards and passing through a maze of small eroded hillocks, we reached a broad open valley known as Dōband-i-Tāhirī. Stretching approximately from east to west it affords good views of the high mountains to the north, beyond which lie the valleys of Jam and Galehdār once passed by routes feeding the trade of Sīrāf. I was told by our local guide of ruins to be seen on those thinly wooded heights and of springs to which they owe their name of *Kōb-i-baft-chāb*. It is possible that the custom mentioned by the Arab geographer Ibn Rosteh (ninth century A.D.) of the people of Sīrāf seeking the mountains during the hot season⁸ refers to these heights, or else to Jam. Moving for about a mile along the Dōband valley, which along its flat bottom, about half a mile wide, contains a good deal of arable land, at present uncultivated, I came near the middle upon scattered groups of old remains marked by decayed walls, as seen in the ruined area of Sīrāf. Plentiful pottery debris identical with that of Sīrāf strews the ground here and farther west beyond a small ravine. This was said to receive water higher up from a perennial fresh spring passed on the route leading to Jam. This statement was borne out by the ruined tower of a water-mill to be seen together with the traces of a small aqueduct where a narrow valley debouches from the foot-hills. The valley of Dōband could well have served as a place where the animals of the caravans which carried goods to and from Sīrāf might be rested, and the remains above referred to may, perhaps, be those of *sarais*.

⁸ See Schwarz, *Iran im Mittelalter*, p. 61.

Following down the ravine which passes across Dōband along the caravan track from Jam, the gorge of Kunārak is entered where it cuts through the outer hill chain. There, at a distance of about half a mile above the north-western extremity of the Sīrāf site, three small rock-cut caves are to be seen on almost perpendicular cliffs to the west, at a height of about 200 feet above the bottom of the gorge. They are now inaccessible owing to a rocky ledge which seems to have run about 8–10 feet below them, having almost completely crumbled away. Their carefully cut entrances, about 3 feet wide and 4 feet high, clearly distinguish them from the grottoes seen in Shilau. The middle one has a porch retaining some white plaster on its sides; the one to the south is adjoined by a small room with a narrow window to admit light. In the third cave a raised platform could be made out along the back wall. There can be no doubt that all three caves were intended to serve as dwelling-places, perhaps for recluses. At the bottom of a rocky gully descending along the cliffs there are a large ruined cistern and a deep well still holding water.

Having now completed my account of the remains I was able to examine at Sīrāf, I may briefly describe the characteristic types represented among the fragments of decorated ceramic ware which were collected in plenty among the ruins of the site. These relics derive distinct archaeological interest from the chronological limits indicated by the fact that the records above quoted prove the once flourishing great emporium to have already entered on its period of decay by the last quarter of the tenth century, while by the beginning of the thirteenth it had become almost completely deserted. Among the glazed ware (Pl. XXVII), pieces coloured in varied shades of bluish-green are by far the most abundant. Relief decoration is particularly frequent among them. It consists mainly of flat ribbing, usually strengthened by the darker shade of the glaze lying thickly in the grooves (Tah. 87, 105, 106) and often combined with some cable ornament incised (14, 15) or raised (64, 107). Imbrication in relief occurs along with sunk geometrical patterns (112); elsewhere the latter appear alone (123, 140, 149). Among relief motifs, wave lines combined with pearl borders (65, 67, 69, 70) are special favourites. Of rosettes applied in relief 72 is a pleasing specimen. Pearls are frequent elements in decorative relief patterns too fragmentary for reconstruction. In all this glazed ware the body is a thick creamy clay, glazed both inside and outside. The same applies to the rare fragments (78, 92) with plain light blue glaze outside and slightly raised flowing design in a stronger blue inside.

Among other glazed pottery of the Sīrāf site interest may be claimed for pieces showing incised floral scrolls or other geometrical patterns under splashed or mottled browns, yellows or light greens (26, 30, 31, 37, 80–2). Their type of decoration is identical with that of the glazed ware found at the site of Gīti

and at the kilns of Tīz, which, owing to its close resemblance to wares from Samarra and Brahmanābād, can with Mr. Hobson be safely dated as from the ninth and tenth centuries.⁸ The same type of colouring appears in bands, but without incised patterns, in pieces like 122. A peculiar kind of design in brown and greyish-green (118, 130, 132) under light creamy glaze appears on stone ware of superior body, which in one piece (113) has a crackled surface and might possibly be Chinese. Painted stripes in reddish-brown are seen in some unglazed fragments (119).

Decorated pottery unpainted and unglazed is represented by ribbed pieces like 73 (Pl. XXVI) and by others where the geometrical patterns, whether raised or sunk, were obviously produced from moulds. In them, as well as in some incised pieces, the workmanship is distinctly less careful than in the corresponding ware from the sites of Old Hormuz. There still remain to be noticed the plentiful fragments of porcelain, most of them plain ware in white or shades of grey. Specimens of decorated porcelain, like 117, 121, 134, 159, are clearly Chinese, but these still await approximate dating. A few porcelain fragments of coarse design look much later and may be of Persian manufacture. This is likely to be the case also with the small and neatly executed fragment 147, showing a design manifestly Persian. Among the glass fragments varying in colours from white to black the tubular bead 190 (Pl. X) deserves mention for its inlaid decoration with groups of circlets.

I cannot conclude this account of the observations made at Sīrāf without briefly referring to two facts which, though negative, yet deserve attention. One is that our examination of the surface remains of the site, extensive as these are, did not bring to my notice any indication of Sīrāf having served as a port or having been occupied by a settled population in pre-Muhammadan times. The other is the absence of any special advantages at the site itself which would have recommended it for selection as an emporium for maritime trade. The unproductive character of the ground near it, the extreme limitation of the available building space, and the inadequate protection afforded by its open roadstead had, as the accounts of the Arab geographers show, impressed those who visited Sīrāf while it was still a much-frequented port, quite as much as they must impress us now. This striking incongruity between the local features of Sīrāf and the important part it had played in the trade of the Gulf region during early Islamic times provided a special inducement for me to gain some acquaintance with the tracts which form the hinterland of this barren coast, and with the routes which passed through them and once connected Sīrāf with the old economic centres of Persia.

⁸ See above, pp. 85 sq., 91 sq., and Mr. Hobson's Appendix A, pp. 244 sq.



74. RUINED MILL-TOWER AND AQUEDUCT, TANG-I-LIR, SİRĀF



75. WATCH-TOWER AND DOMED CISTERN, BIRKEH MURĀD,
NEAR SATALU, GĀBANDŪ



76. FOUNDATION WALLS OF RUINED HOUSES, SİRĀF

CHAPTER VIII FROM GALEHDĀR TO BUSHIRE

SECTION I—REMAINS OF GALEHDĀR

FROM the first it had been my intention to turn from Tāhirī eastwards and to make my way into Lāristān across the succession of hill ranges running parallel to the coast-line. There seemed hope that on that higher ground, archaeologically as yet unsurveyed and also otherwise little known, it would be possible to continue exploratory field work longer into the spring than climatic conditions would permit by the hot and steamy Gulf coast. Some doubts as to the execution of this programme had first been raised by the report received at Gābandī about unrest among the large Qāshqai tribe whose extensive winter grazing-grounds adjoin that area. The rumours heard at Tāhirī did not help to reduce these misgivings. But during our prolonged stay there even more immediate cause for concern revealed itself through the difficulties we had to face about transport. The small fishing hamlet of Tāhirī could not have supplied more than half a dozen half-starved donkeys for the move across the rugged hill range which rises steeply above the narrow coastal strip and divides it from the Galehdār valley through which the approach to Lār lay. Even if the old Shaikh of Tāhirī, who lay dying in his castle-like mansion below which our camp stood, had been able and willing to assert what little authority was left to him, it would have been impossible to collect adequate transport along this stretch of coast, where the loss of animals due to starvation consequent on two years of drought appeared to have been even greater than elsewhere.

So it was with no small relief that by January 19th I welcomed the arrival of about a score of donkeys which 'Abbās Khān, 'Shaikh' of Galehdār, in response to urgent appeals, had sent down to help us onwards. The desire to reach Lār was shared by the commander of our escort, who hoped that the small garrison to be found there would allow him to be relieved of further responsibilities. For a similar reason he felt also much reassured by the arrival with the Galehdār transport of a small band of 'Abbās Khān's armed retainers, who were to protect us on the way through the hills.

On January 20th a short march of 10 miles down the coast to the south-east took us to the spot known as Pūzeh, where some decayed homesteads marked cultivation which the oppression exercised by the Shaikh of Tāhirī had caused to

be abandoned in recent years. The ascent of the rugged coastal range proved so steep and difficult from the start that I could scarcely feel surprised at two of the local donkeys having clandestinely been taken away by their owners during the night, and two more breaking down completely after only about $1\frac{1}{2}$ miles had been covered on the bare slope of calcareous rock up which the track led. I had previously noticed scanty traces of an old road, and as the ascent continued we soon passed walls built with large slabs of cut stone which had once carried a winding, properly engineered road. These and other remains observed farther on left no doubt that this route, difficult as it must always have been, had been in regular use for the traffic which once was carried on between the emporium of Sīrāf and the old trading centres of Īrān.

After gaining the height of the rocky spur the old route, still difficult but less steep, was followed along its crest north-eastwards to a narrow plateau known as Yahūd-kush ('the Jew's murder'). There two cisterns and the ruins of several domed structures occupy the small available space, marking an old halting-place for trade caravans. At the bottom of a confined little valley to the north could be seen patches of date groves irrigated from a spring-fed streamlet and visited by semi-nomadic herdsman known here, as all along the coast, by the designation of 'Balūch'. The brushwood brought down by them from the higher hill-sides and shipped to Bahrein, partly in the form of charcoal, forms nowadays practically the only article of export from this desolate coast.

Ascending the bare rocky ridge for another mile, we reached the foot of precipitous cliffs known as *Shash-pēch*. The name, meaning literally 'the six screw turns or twists', is not inappropriately derived from the very steep winding path which clammers up the side of the cliffs between fissured masses of rock (Fig. 80). The path is too difficult for any but local donkeys to follow and in places would scarcely allow our mule-trunks to be got through. An ascent of some 300 feet by this rock ladder brought us to almost vertical cliffs of limestone which looked as if barring progress for any laden animal. Yet a track had been carried up here, to a further height of some 400 feet, by means of walls of very solid construction. They showed regular courses of masonry set in mortar. The route was thus made practicable also for camels which, as our Galehdār *tufangchīs* explained, could be brought here by means of a detour leading across a side spur lower down, thus avoiding the 'Six Twists'.

On gaining the top of the main spur we found its narrow crest occupied by the ruins of a square *sarai* and some other smaller structures. They are known by the name of *Gachīno*, from the gypsum cement (*gach*) used in the rough masonry. They obviously date from the same period as the remains of Sīrāf, and their better preservation may well be due to the force of earthquakes having made itself less

felt here than by the actual coast. From here onwards the old route led along the edge of a steeply tilted ridge which falls off to the south in nearly vertical rock walls. Below them some terraced cultivation could be seen on the slopes of smaller ridges. Finally a gentle ascent eastwards brought us within view of a pass known as Kul-i-kharg. Below this, in a small rocky basin, we were obliged, by reason of the water to be found there in a rock-cut cistern, to halt for the night. In the course of the tiring ascent from Pūzeh we had covered only about 7 miles, but farther on no water could be looked for until nearing the Galehdār valley.

That the small rock-bound basin measuring some 300 by 100 yards has formed a regular halting-place from early times was proved by a curious discovery. The only outlet from the basin is formed by a narrow little ravine at its south-west corner, and here a massive semicircular barrage about 40 feet long, and built with large stone blocks to a height of some 20 feet, cuts across the line of drainage. This solid dam would obviously serve to prevent erosion of the small level space here available as a convenient halting-place for trade caravans and possibly even for some modest cultivation in years of fair rainfall. But equally likely would be the risk that flood-water gathering from the rocky heights around would first swamp the level ground of the basin and then carry away the dam altogether.

It is only this consideration which appears to afford a suitable explanation for the neatly cut channel, 2 feet wide, to be found passing through the solid rock a little to the west of the barrage. Both the dam and the rock cutting are undoubtedly old work, but a somewhat puzzling feature is the fair preservation of both. The barrage is perfectly intact and the rock floor of the cutting for the most part exposed, although the rains of centuries might be assumed to have deposited much debris in this flood channel. Was the latter, then, cleared from time to time to prevent the dam being broken? If the level ground within the basin was at times used for cultivation, the suggestion just indicated would provide the explanation.

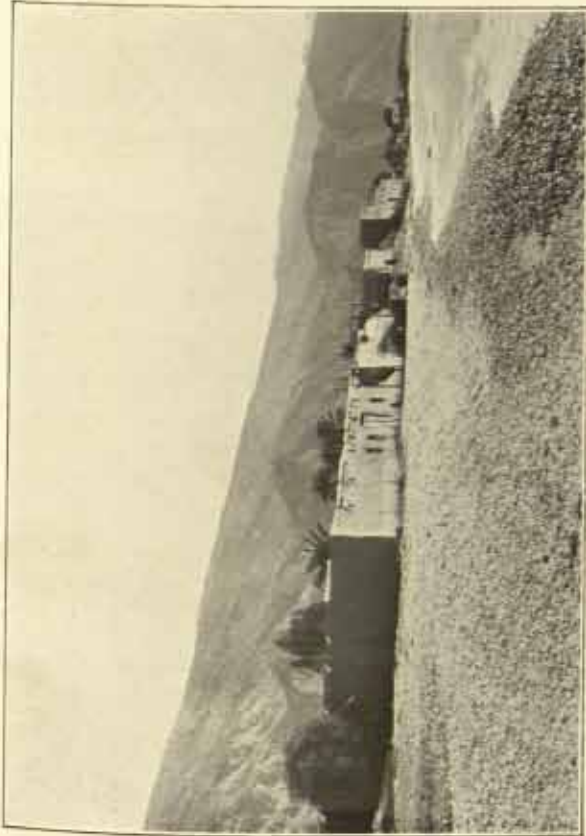
A stiff climb of some 400 feet up the limestone cliffs encircling the basin on the north brought us on the morning of January 22nd to the edge of a wide plateau known as Lāvar-i-gul. From here a distant view was gained of the sea and coast-line far below, the last, I hoped, for a long time. Terraced fields, with plentiful scrub, showed that the plateau was cultivated in favourable seasons. Though the narcissus and other spring flowers from which this open elevated ground was said to take its name had not yet appeared, there was enough in the cool bracing air at this height to refresh and delight. On continuing northward across the plateau we passed the ruins of numerous stone-built dwellings known

as *Gabr-khānabā*, the 'houses of Gabrs (Zoroastrians)', and probably of some antiquity. Ruined cisterns were said to exist among the fields. A gentle ascent, in places over bare rock, then brought us to the watershed situated on a broad ridge at an elevation of approximately 2,900 feet, and about 2 miles distant from camp.

The descent was easy at first, leading down the open head of a valley where a ruined dwelling known as *Mirzābūn* was to be seen to the west. Then a very steep track led down over step-like layers of limestone into the narrow winding gorge of *Tang-i-bēdū*. Large stone blocks placed to form a kind of parapet along parts of the narrow track marked its use as an old caravan route. From the point where the bottom of the gorge was gained, about 2 miles beyond the watershed, going between precipitous rock walls on either side was very rough. A small grove of date-palms was passed below a little spring, and in places where bare water-worn rock makes the passage down the narrow flood-bed of the gorge particularly difficult, there were to be seen traces of an old road carried on walls along the foot of the cliffs. At last, after having followed the gorge for close on 4 miles, we emerged on more open ground and from a low ridge, overlooking the date grove of *Tawakali* and bearing much-decayed remains of roughly built dwellings, gained our first sight of the wide *Galehdār* valley.

The remaining portion of the march took us past shallow troughs where marshy streamlets feed reed beds and small scattered plantations of date palms. Remains of ruined aqueducts showed where this precious water had been carried, at a time not very distant, to cultivation now wholly abandoned lower down in the main valley. Finally we crossed a wide scrubby plain to the north-east interspersed with grassy patches bearing little flowers, signs of a modest *primavera*, and after having covered altogether some 12 miles reached 'Abbās Khān's fortified residence at the hamlet of *Nauba*.

The welcome offered by the young Shaikh was warm, and his wish to make himself useful obviously genuine. But it did not take us long to realize that his ability to give effect to this good intention was greatly limited. His father, 'Alī Akbar Khān, who as the chief landowner of the *Galehdār* tract had exercised recognized local authority, had a year or two before on the passage of troops from *Shīrāz* been removed to *Tehrān*. Such nominal control as 'Abbās Khān was entrusted with in his stead had been greatly impaired by the general unrest which the reported rising of 'Alī Khān, brother of *Şaulat-ud-dauleh*, the late *Īlkhānī*, or chief, of all the *Qāshqai* tribes, had produced. The valleys to the north and north-east formed part of the regular winter grazing-grounds of *Qāshqai* tribal sections, and as the late *Īlkhānī* when in power had acquired a good deal of landed property both in *Galehdār* and in the adjoining tracts to the



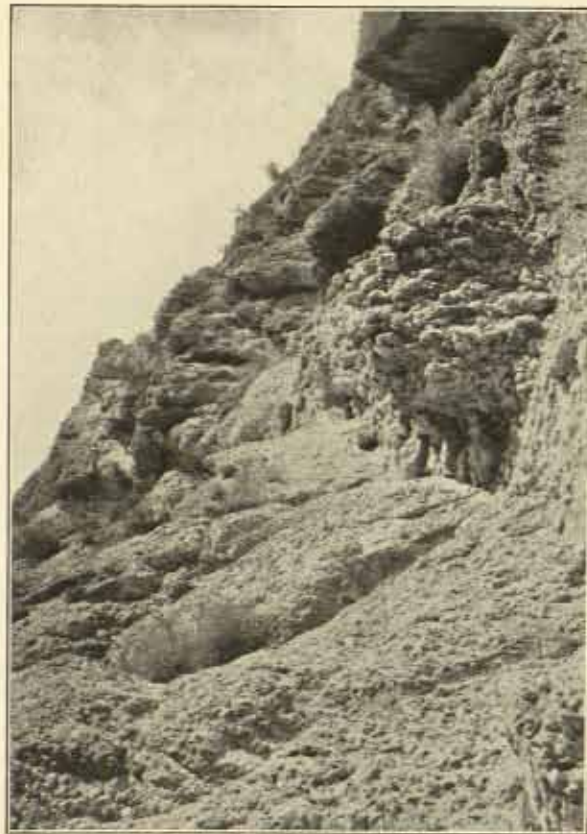
77. PARAK VILLAGE, AT FOOT OF MARITIME RANGE, NEAR TÄHIRI



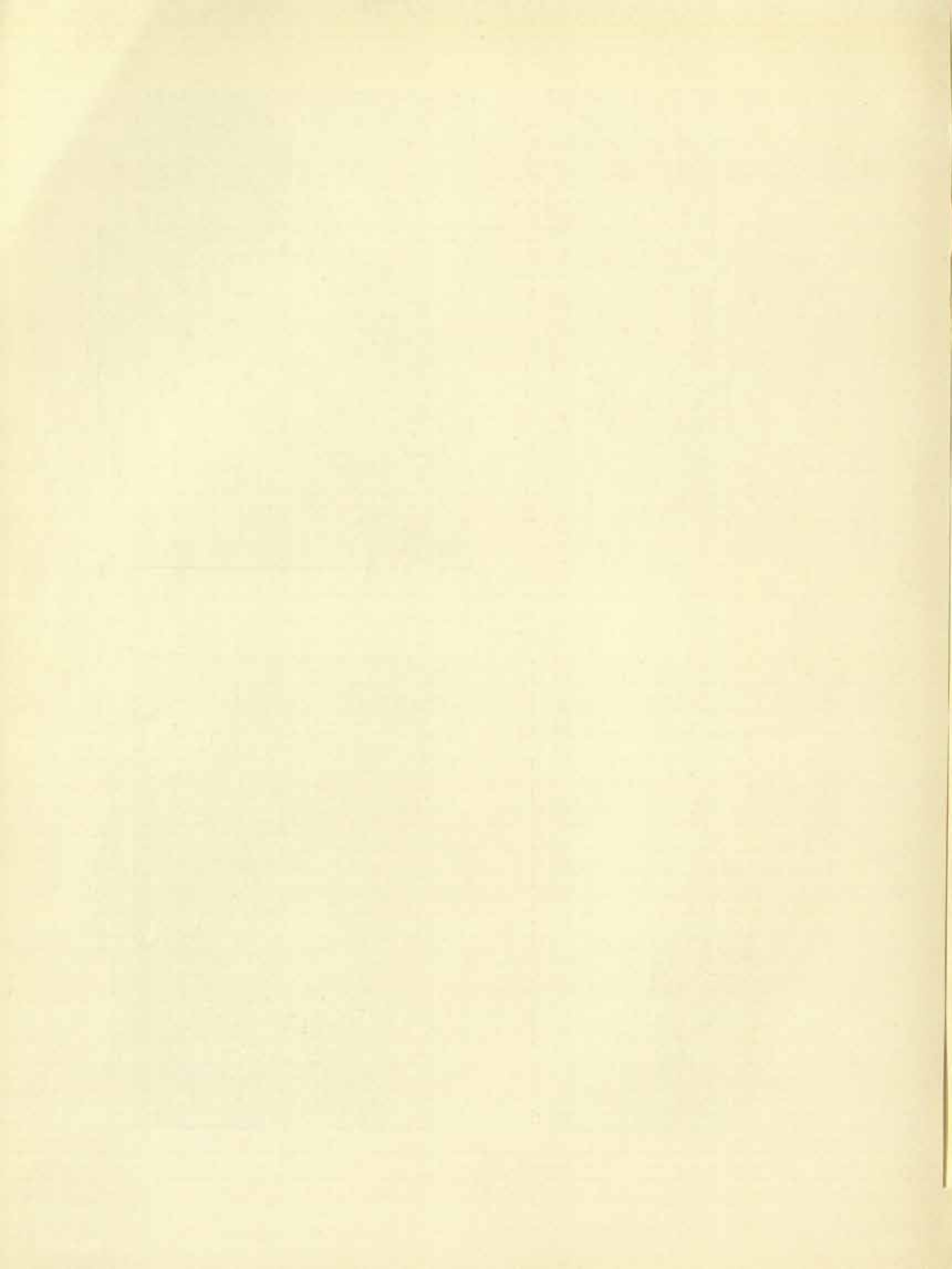
78. TOMB BELOW FORT OF DEMAGHÄH-I-GÖRA, WARÄWI



79. PASS LEADING ACROSS MARITIME RANGE TO
GÄBANDI VALLEY



80. CLIFFS AT SHASH-PÉCH, ON TRACK FROM COAST
NEAR TÄHIRI TO GALEHDÄR



north-west, local support for 'Alī Khān's cause was to be expected also on the part of the settled population.

From 'Abbās Khān's information it became clear that no safe passage could be assured for us by the direct route leading to Lār through the valleys of 'Alā-marv-dasht and Khunj. It was hence considered necessary to prepare for a move down from Galehdār via Warāwī to Ishkanān, whence Lār could be reached through tracts farther away from the disturbed area to the north-west and hence less likely to be affected by the trouble. Transport and needful protection for that move had to be sought from the influential Khān of Warāwī, reported to be well-disposed, and while awaiting his reply and the completion of the arrangements required, I could profitably use the welcome opportunity offered for surveying reported old sites about Galehdār.

Starting accordingly on the morning of January 23rd with a couple of men from our escort and more of 'Abbās Khān's armed retainers, I first proceeded to visit the remains indicated on the northern side of the valley. Passing for a mile between fields intermittently cultivated with water from springs and now covered with narcissus in bloom, we reached the low mounds of Kashkuk showing much decayed remains of structures built with unhewn stones, as well as tomb-stones with Kufic inscriptions. Numerous fragments of blue and green glazed ware with relief ornamentation closely resembling that found at Sīrāf (Kash. 16; Pl. XXVI), together with pieces of porcelain (Kash. 7; Pl. XXVI), indicated medieval occupation. Proceeding north-eastwards to the large village of Asīr at the foot of the Zālimī hill chain, I found it adjoined on the east by low debris mounds stretching for about 800 yards from south-west to north-east with an average width of some 250 yards. Amidst them rises a much-damaged domed structure, obviously a Muhammadan tomb. Glazed green ware of the Sīrāf type was to be picked up in plenty, also fragments of Chinese porcelain. Of Persian decorated pottery the fragment Asir. 22 (Pl. XXVI) imitates Chinese design, while others show remains of lustre. Judging from some indications, including the absence of ribbed ware, occupation of the site down to late Muhammadan times appeared likely. But here, as also at Fāl, to be described farther on, the extent of the debris area suggested that the site had been one of importance chiefly at the period when the great trade route to Sīrāf had passed that way. The comparative abundance of the resources offered by the Galehdār tract, both as regards food supplies and grazing, must in fact have favoured the development and use of this old trade route.

The wide view obtained from the sloping ground of Asīr across the broad flat bottom of the valley showed clearly the great extent of potentially fertile land available here for cultivation, and the verdant look of the plain suggested

climatic conditions far more favourable to agriculture than those observed along the coast. It might thus be reasonably assumed that a much larger population than at present had occupied this tract in former times; and this might well account for the remains of extensive fortifications, obviously meant for places of refuge, to be found, as I was told, on the hills rising north of the valley.

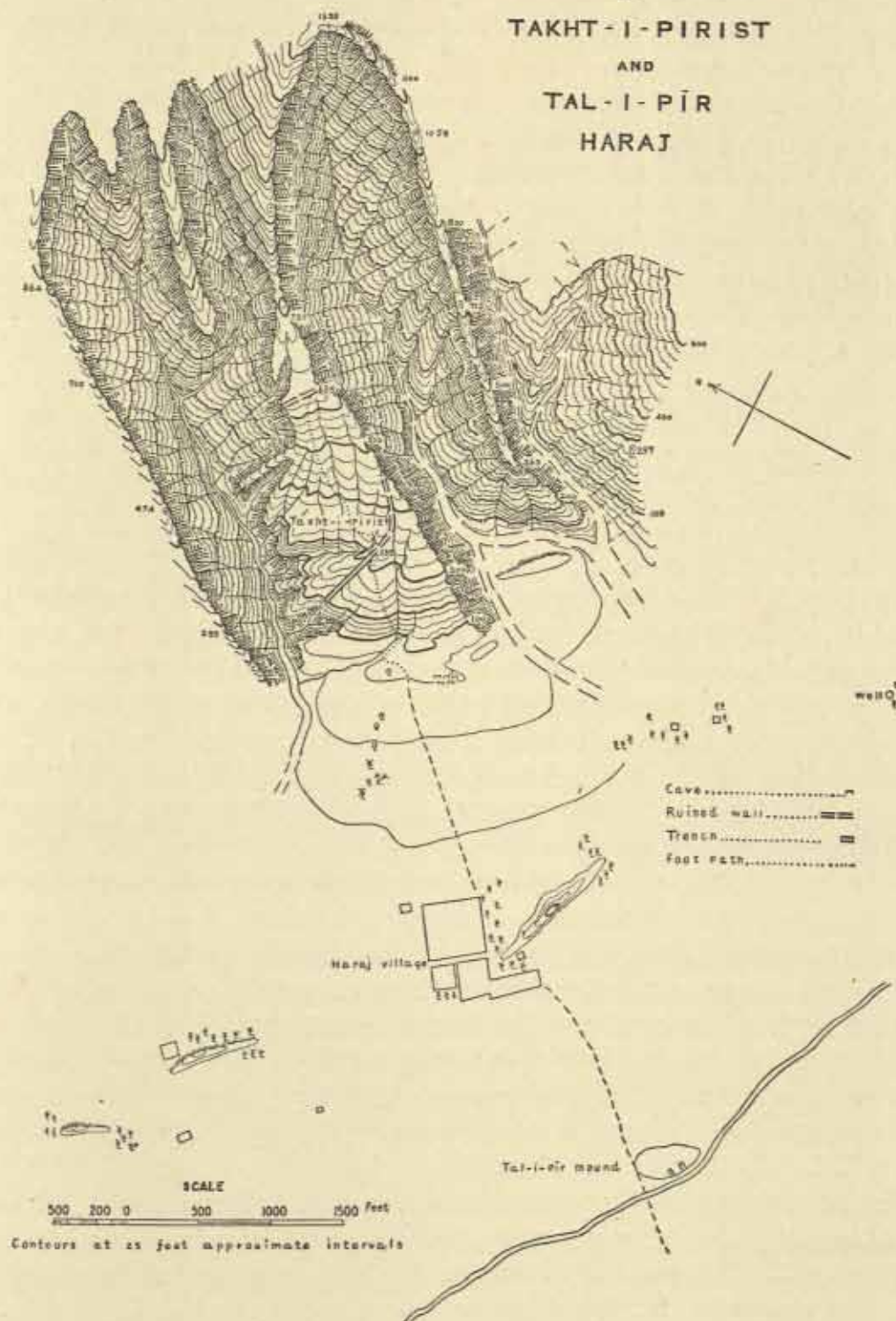
The nearest of these, and the only one which under the prevailing conditions of insecurity were considered accessible at the time, could be sighted on a hill spur above the hamlet of Haraj, about $1\frac{1}{2}$ miles to the east of Asīr. On proceeding towards this my attention was attracted by a low mound rising on absolutely level ground about 500 yards to the south of the hamlet (see Plan 18). It could scarcely be natural, and on examining its surface, largely occupied by Muhammadan graves, this conclusion was very soon confirmed by plentiful finds of worked flints, cores, and fragments of painted pottery, obviously prehistoric. It was a very gratifying discovery to have come here upon evidence of manifestly prolonged occupation in prehistoric times, after having vainly looked for such since reaching the coast.

While the necessary arrangements were being made for trial excavations I occupied the spare time in visiting some old remains reported to be close to Haraj. On the narrow rocky ridge rising immediately to the east of the hamlet to a height of about 100 feet, only foundations of roughly built walls and broken plain pottery, both of uncertain date, could be traced. Some 300 yards to the north, at the foot of the spur bearing the fortification already referred to, I found a series of small caves, some eighteen in all, forming an irregular row, hewn into the limestone rock. None were more than 6 feet deep, and the entrances so low and narrow as to suggest tombs. The interior showed only the bare rock floor, and no indication of age could be found. Some of these cavities seemed never to have been finished.

The survey of the bastioned lines of wall clearly visible high up on the spur had to be left for a later visit. But before regaining Nauba fort in the dusk I took the opportunity to visit rapidly some low mounds sighted amidst fields about $1\frac{1}{2}$ miles to the south-east of Haraj. They were found to lie close together, varying from 110 to 150 yards in length and none rising more than 8 to 10 feet above the surrounding ground. The low grass covering the surface impeded a close search. As, however, apart from potsherds of well-made plain red ware, a worked flint blade with finger-hold, a painted pottery fragment of chalcolithic type, and several small pieces of alabaster were picked up, prehistoric occupation here, too, appeared very probable.

Before proceeding to a trial-excavation at the *Tal-i-pīr*, as the ancient mound near Haraj village is called, it seemed advisable to make, on January 24th, a

SKETCH PLAN
OF
TAKHT-I-PIRIST
AND
TAL-I-PĪR
HARAJ



PLAN 18

reconnaissance of remains reported on the southern side of the valley. Before reaching Galehdār, the chief place of the valley at a distance of 5 miles from camp, a wide torrent-bed was crossed. It issues from the mouth of a valley down which leads an alternate route from the coast, diverging at Kul-i-kargh, and said also to show traces of old road-making. Galehdār proved to be a large village, holding within its decayed walls probably more than 300 homesteads. But many of the houses were deserted, owing to languishing trade and the prevailing conditions of insecurity. The latter were significantly illustrated by the number of armed men from villages of the neighbourhood whom we met on the road. Our own *tufangchīs*, probably with reason, assumed them to be on their way to join the Qāshqai rising.

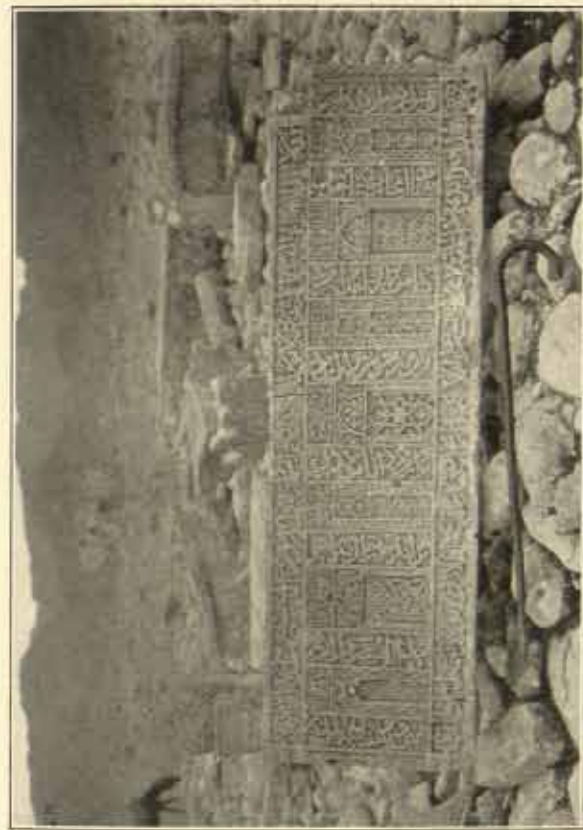
About half a mile to the east of Galehdār there rises to a height of some 33 feet a conspicuous mound, known as *Tump-i-Podu*. It measures about 140 yards in diameter. It bears remains of rough stone walls on its slopes, and more of them found on the narrow top show that it was probably occupied in later times for defence. The potsherds picked up on the surface were of a very mixed character. Apart from plentiful red and dark-brown unglazed pottery, there were to be found numerous fragments of dark-blue and green ware, both plain and with incised patterns resembling the type found at Sīrāf. But pieces of painted prehistoric pottery like Pod. 10, 11, 13 (Pl. XXVI) were also picked up, as well as others of a slightly ribbed burnished ware (Pod. 6; Pl. XXVI), which may date from early historical times. Considering the occupation thus indicated during varying periods and the size of the mound, the Tump-i-Podu did not invite the rapid trial excavation that alone was possible in the circumstances prevailing.

The village of Fāl, at which old remains had been reported, was reached after a march of about 4 miles down the valley from Galehdār. The village was said at that time to count about 150 households. But that Fāl had been once a place of some importance was proved by the fact that an extensive area adjoining it on the west and south was covered with low debris mounds and decayed Muhammadan tombs. This site stretches from west to east for fully a mile. Many tombstones (Fig. 82), covered with fine relief tracery and Kufic writing, lie about in groups mostly upturned and broken. A ruined mosque (Fig. 84) still retains its south-west wall faced with dressed slabs and steps leading up to the pulpit. A Kufic inscription to the right of the *mibrāb* was broken. Fāl is mentioned in Muqaddasi's *Geography*¹ by its present name, but locally its traditional name was given as *Dār-uṣ-ṣafā*. The remains of decorated pottery consisted mainly of glazed green and blue ware, bearing relief or incised designs and closely resembling

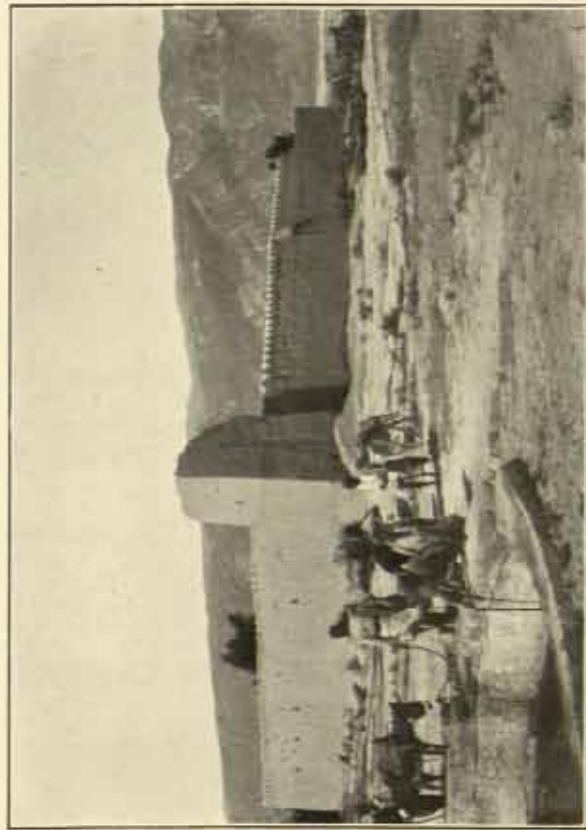
¹ Cf. Schwarz, *Iran im Mittelalter*, p. 80.



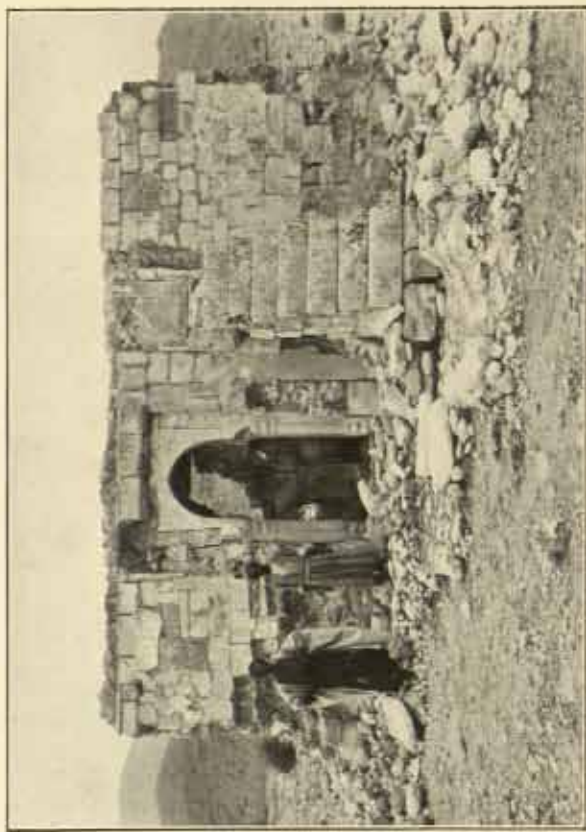
81. TOMBSTONE WITH KUFIC INSCRIPTION, ŠIRĀF



82. TOMBSTONE AT FĀL, GALEHDĀR



83. FORTIFIED HAMLET, HĀJĪĀBĀD, ABOVE WARĀWĪ



84. RUINED MOSQUE AT FĀL, GALEHDĀR

that found at Sīrāf. This together with the style of the ornamented tombstones distinctly suggests that Fāl flourished about the same period as Sīrāf; but occupation of this site probably continued longer. No porcelain was picked up by us among the mounds.

Having convinced myself by this reconnaissance that the Tal-i-pīr mound of Haraj offered the best chance of profitable results from trial excavation, I started work there on the morning of January 25th with three dozen men, half brought from Nauba and half collected locally. The mound is situated close to the left bank of a flood-bed receiving the drainage from the north-western head of the valley. It measures in length about 200 yards from north-west to south-east, with a maximum width of some 130 yards towards the middle, and rises to a height of approximately 19 feet above the adjoining field level. A considerable portion of the top and slopes is covered with Muhammadan graves. Regard for these obliged me to confine our two trial trenches to the south-eastern side of the mound. The one opened on the first day was carried in eight sections, i-viii, each measuring some 6 feet square on the surface, from a level about 5 feet below the top down to an average depth of 4 feet 8 inches from the surface. The bottom reached in the lowest section, viii, corresponded approximately to the surface level of the cultivated plain beyond the flood-bed. The digging here passed first through a layer of refuse marked by animal bones and ashes, then a layer of earth before reaching, lower down, painted potsherds and worked stones. On January 26th a second trial trench was started in sections ix-xii at a distance of about 12 feet to the west of the first and carried from the same level down the slope. Fig. 86 shows both trenches.

From the start worked stone implements, mostly blades and borers showing signs of use, turned up in great numbers in all sections, the blades measuring up to 5 inches in length (for specimens, marked Har., see Pl. XXX). There were found also a grinding stone with flat handle and a large stone pestle, also a massive short club-shaped hammer (Har. 102; Pl. XVIII). Of special interest were two 'button seals' of stone, Har. i. 6, 8 (Pl. XXX), from sections vi and viii, showing on their flat surface simple but neatly cut geometrical patterns and provided with pierced shanks at the back. They correspond closely in shape and design to similar objects obviously used for clay sealings, which were found by me at several chalcolithic sites of Fārs on my third South-Persian journey. Such 'button seals' had been recovered before by Professor Herzfeld at the prehistoric village near Persepolis, and are represented also by closely similar specimens among Mr. Mallowan's rich finds at Arpachiyah.² The same affinity is revealed

² See Mallowan, 'Excavations at Tall Arpachiyah', *Iraq*, ii. p. 92, with illustrations of 'Discoid Pendants', pp. 93, 15-20.

in a still more convincing fashion by the examination of the abundant remains of painted pottery uniformly brought to light through the debris layers which our trial trenches at the Tal-i-pīr disclosed.

The decoration of these pottery fragments is all monotone, though the colours, owing to the different strengths of paint used or to imperfections of the burning, vary from black to shades of brown and dark red. The colour had been applied before burning and hence is not affected by washing, but often the painted surface, owing to inadequate burning or the action of salt in the soil, has rubbed off, leaving the patterns imperfect. The body of all the ceramics, both painted and plain, varies from a fine hard clay, perfectly baked, to coarse ware often imperfectly fired and hence more liable to the action of damp and of salt in the soil. The prevailing colour of the ware is a dirty yellowish-grey, but in a small number of pieces of superior texture (v. 7; vi. 43) the colour is creamy and in others (vi. 8, 9) a light red. Apparently all this pottery was wheel-made. Neither burnishing nor slip has been noticed.

The fragments are mostly from cups and bowls varying greatly in size and shape as shown by the specimens in Pls. XXVIII, XXIX. Among them may be specially noted several pieces showing a ring foot (xi. 6; xii. 12) and bottom portions of cups with a pointed conical base (iii. 6; iv. 16; xii. 18). Among remains of flat-bottomed vessels of different sizes, that of a bowl, ii. 26, decorated inside with a diaper of lozenges, deserves special mention as having been found, at a depth of 3 feet, holding a small collection of flint blades. Slightly lower down there turned up some human bones and, on the same level close by, a skull.

Among the decorative painted designs simple bands and stripes of varying widths commonly line the inner or outer rims. Very frequent are designs composed of hachured squares or oblongs, whether complete or halved, and grouped in different schemes, as seen in i. 7; ii. 66; v. 15, 28, 50; vi. 34, 44, 71; vii. 3, 25, 36, 37; xi. 26. Triangles, mostly hachured, in various combinations are also very frequent, alternately reversed (i. 11), or with points touching bases or arranged in hour-glass fashion (v. 43; xi. 17). Comb-like or feathered attachments are seen in ii. 26; iii. 15; vi. 11. Lozenge diapers appear in v. 34; xi. 26. Disks and circlets are found reserved in a solid black ground in vii. 6; viii. 9, 11, or hachured inside (v. 2). Simple but characteristic motifs of a geometrical kind are heart shapes (v. 36; vi. 21); crosses (viii. 16), and 'sigmas' (vi. 11, 33). While most of these designs can be paralleled also from the chalcolithic painted pottery of Balūchistān sites, the insertion of fine dotted lines, as in ii. 1, 25; vi. 9; xi. 3, 24, provides a clear and significant link with the ceramic style of the Persepolis mound and of numerous chalcolithic sites subsequently surveyed by me in

Fārs. Equally interesting is it to find evidence of relation both with the Susa and the Balūchistān painted pottery indicated by the bands of horns, apparently of mountain sheep, found as a decorative motif in iv. 16, 17, 21, 22, 25; v. 46, and by a row of ducks, iii. 7. An animal figure, incomplete and hence doubtful, appears also in v. 46. Finally may be mentioned a terra-cotta bird's head with beak, x. 12, modelled in the round.

The second day was drawing towards dusk when in section xii, at a depth of about 4 feet, there were revealed the remains of a body in a seated position with legs drawn up to the chest. No funeral deposits, however, were found near what obviously was a burial coeval with the prehistoric relics of the mound. It was not possible to clear the body at the time without delaying our return to camp until nightfall. An intelligent headman from Asīr, who had shown interest in the excavation, promised protection for this interesting find. But on returning to the mound next morning we found the body completely smashed to pieces. All day groups of armed men from Asīr and neighbouring hamlets gathered at the mound and closely watched our proceedings. It only occurred to me later that these visitors were probably attracted by the hope of our hitting upon the buried treasure for which, no doubt, we were supposed to be searching. This expectation might well have been an inducement to postpone any attempt at plunder, otherwise easy to effect, until the treasure had been raised.

On regaining our camp at the fort of Nauba I found to my relief that, in response to our appeal, Sohrāb Khān of Warāwī had sent an adequate number of donkeys under a strong guard of his armed retainers. Their arrival rendered a move towards Ishkanān possible, and this appeared now all the more advisable as news had arrived of a fight having taken place near Karzīn between Government troops and 'Alī Khān's tribal followers, with the result that the latter were now withdrawing to the south-east and seeking to extend the rising to the valleys adjoining Galehdār. While the officer in charge of our escort, fearing an attack on the way, was waiting for Sohrāb Khān to accept definite responsibility for our protection, I used the time available for a survey of the interesting ruined stronghold, known as *Takht-i-pirist*, which had attracted my attention from afar on my first visit to Haraj.

As will be seen from the sketch plan made with the plane-table and reproduced in Plan 18 the hill fastness, undoubtedly of old date, occupies a naturally strong position on the top of a steep hill spur which descends towards Haraj village. It is flanked on either side by practically unscalable cliffs falling off into deep-cut ravines. Approach to the protected top of the spur is barred on the south by a double line of wall ascending from a height of about 200 feet above the valley bottom on the west side to a level of some 330 feet, where the gate stood.

Thence it continues with a marked bend another 100 feet to the brink of the precipitous ravine on the north-east. On a level of about 300 feet above that of the gate in the southern defences the top of the spur contracts to a width of some 250 feet, and is here closed by another double wall. Thus between these two defensive lines a protected area, on a rather steep incline, is secured which might afford safety to a considerable number of people in case of emergency.

The southern line of wall is approached from an old cemetery behind Haraj village by a very steep track leading over bare limestone rock. Where this track entered the defences, the double line of wall is broken for a distance of about 80 feet; but to the west of this it is clearly traceable, as shown by Fig. 85, for some 329 feet up to the brink of the precipice. Above this a tower, now completely ruined, appears to have once stood. On the outside the wall was strengthened by small semicircular bastions or buttresses having a radius of a little more than 5 feet, and built at distances varying between 55 and 75 feet from each other. The bastions, like the wall curtains, are solidly built with rough stone blocks set in earth. Behind the outer wall there runs parallel to it at an average distance of 7 feet 3 inches an inner wall, 2 feet 6 inches thick, like the outer wall and built in the same fashion. This inner wall is nowhere more than 6 feet high now, while the outer one still rises in places to a maximum of 10 feet. The inner wall, at intervals varying from 20 to 27 feet, had doors about 3 feet wide with large stone lintels. These openings clearly showed that the space between the two lines of walls was meant to afford shelter. As this space is but little encumbered by fallen stones, it appears likely to have been roofed with timber and earth at approximately a man's height, the additional height of the outer wall having been intended as a parapet for the defenders.

From the break already referred to as marking the entrance to the fortified area, the double line of wall, similarly constructed with bastions at intervals of from 48 to 73 feet, turns to the north-east, but owing to the steepness of the slope it is there less well preserved. Beyond a stretch of about 100 feet where the line has almost completely broken down, it ascends the rocky slope to the north-north-east, and after another 100 feet ends some 25 feet from the edge of precipitous cliffs. Within the defensive line and near the entrance a hollow closed by a barrage of poor, perhaps later, construction marks what obviously was meant for a tank to catch the drainage and assure a supply of water.

The upper and shorter line of wall which stretches across the spur, as already stated, at an elevation some 300 feet higher than the entrance has no bastions, but otherwise it is of closely corresponding construction. Here, too, a broken portion about 35 feet long marks the former position of a gate. Projecting wall sections along either side of this may mark ramps meant to facilitate access to

the top of the outer wall. Here, too, doorways, of which three still retain large unhewn slabs as lintels, lead through the inner wall. The fact that this inner wall with its doorways faces north seemed at first very puzzling. But an explanation was afforded by the fact that about 80 feet higher up the precipitous cliffs of the two deep-cut ravines on either side converge until a space of only about 8 feet wide is left for approach to the top of the spur. No remains of a tower or wall were traced here, but the natural defensive strength of the spot is obvious and so also the likelihood of rough masonry in such a position having given way in the course of centuries. The western end of the upper wall line runs close to a narrow ravine and descends steeply for about 35 feet to where a very massively constructed barrage, 46 feet long, closes this ravine. Filled by drainage from the top of the spur the reservoir thus formed would assure a considerable supply of water for those seeking protection on it.

The position chosen for the Takht-i-pirist reminded me curiously of that occupied by the ancient hill stronghold of the Zamr-i-ātash-parast surveyed by me in Wakhān on the uppermost Oxus in 1915.³ There, too, a steep spur flanked by precipitous ravines on either side and connected with the range behind only by a very narrow neck had been fortified in order to secure a safe temporary place of refuge for a large number of people ordinarily living in the valley below. There, too, the fortified line consisted of a double wall. A variety of indications had led me to assume pre-Muhammadan origin for the defences of the Zamr-i-ātash-parast. At the Takht-i-pirist I felt inclined towards the same conclusion, although no even approximately datable remains could be found on the surface. An early date seemed to be indicated for these defences by the negative fact that the comparatively solid construction of the walls completely lacked that use of mortar or cement which all medieval structures of this region invariably show, and for which the material is just as readily available here as it was at Sīrāf or on the old routes leading across the coastal range.

SECTION II—TO WARĀWĪ AND UP THE GULF COAST

The occurrence, on January 28th, of the Īd festival closing the Ramadān precluded either a move from Nauba or more work at Haraj. I used the enforced halt for a visit to a ruined stronghold known as Kōghan. It was found to be situated about 2 miles to the south-south-west of Nauba on the top of a precipitous ridge marking the extremity of the hill spur to the east of the Tawakali stream, which we had followed on our descent into the Galehdār valley. The ridge rises with wall-like cliffs of conglomerate to a height of about 300 feet

³ See *Innermost Asia*, ii. pp. 866-70; iii. Pls. XLVII, XLVIII.

above the bed of the stream. The sloping ground on the top, only some 50 yards across where widest, bears on the side opposite to these precipices the badly decayed remains of a defensive line stretching for about a quarter of a mile. It is formed by a wall of unhewn stones set in earth, with debris heaps from a few ruined towers of the same rough construction meant to strengthen the line. Remains of small dwellings built with rubble and mortar were traced here and there between the line of wall and the brink of the precipice. The fragments of coarse red pottery, all plain, picked up between the ruined walls afforded no indication as to the approximate date of the fortification.

The same evening there arrived a messenger with a letter from Sohrāb Khān assuring us of protection as far as his seat at Warāwī, and promising to use his influence with the tribal chiefs of the Tarakuma lower down to help in our progress towards Ishkanān. As any other route in the direction of Lār was sure to be blocked in consequence of the Qāshqai disturbance, we started on January 29th for Warāwī. The journey of some 34 miles was done in two marches under the protection of Sohrāb Khān's armed *tufangcbīs*, and, apart from a clumsy attempt at robbery by one of them, passed without incident. The route led down the open valley past Galehdār and Fāl to a group of small villages with date-palm groves and other scanty cultivation, irrigated from little streams descending from the foot of the coastal range. One of them, Chāh Ḥusainī, had been completely burned down and destroyed during some fighting carried on a few years before with its neighbours. We halted for the night at the hamlet of Chāh Sargaya. Next day, after marching 7 miles, we passed the village of Mohur, which holds some hundred families of Saiyyids and is situated where a spur descending from the south causes the valley to contract. The immunity of the village from local disturbances, due to the holy descent of its inhabitants, was reflected by the greater extent and better cultivation of its lands. Mohur is the last village counted as being within the Galehdār tract, and a conspicuous watch tower on the end of the spur to the south marks the boundary towards Warāwī.

The valley beyond widens considerably, but most of the flat trough is left uncultivated in spite of the increased volume of the stream that drains and at times inundates it. As the villages to the south were at feud with Warāwī we had to keep to a less direct track, along which the only inhabited place was the small fortified hamlet of Ḥājīābād (Fig. 83), with a well-built cistern that looked old. After passing over a wide area of salt-encrusted ground left wholly to grazing, and crossing the stream near the palm grove of Narmūn, we reached Warāwī by the evening of January 30th. This large village, counting some 300 households, has for a long time past held a bad reputation for the predatory propensities of its inhabitants. It was hence reassuring to find in Sohrāb Khān,

the local chief, a strong and energetic man, capable of asserting authority among an unruly community, and intelligent enough to give proof of his loyal disposition. So the two days spent under his protection in a camp immediately outside his fortified mansion passed undisturbed, while negotiations were proceeding between him and Zāl Mirzā Khān, the head of the large Tarakuma clan, concerning our passage to Ishkanān.

The first day of our halt was spent in examining some old remains reported in the close vicinity of Warāwī. The first to be visited was the ruined fort known as Demaghah-i-gōra, situated on the shoulder of a precipitous limestone spur which descends from the Kōh-i-Zālimī range about $1\frac{1}{2}$ miles to the north-west of Warāwī. On ascending to it over the steep rock slope I came upon a succession of small structures, five in all, manifestly sepulchral, but quite distinct from any I had come across elsewhere. They are all of quadrangular shape, built with walls of roughly hewn limestone slabs still standing to heights of 4 to 5 feet (Fig. 78). Each is divided by a thin middle wall into two narrow recesses, with covering slabs separating these again into two stories. It was clear that these recesses or niches could have been intended only for burials. The lowest of these tomb structures was badly decayed, and the others showed signs of having been opened at one time and plundered. No bones or funerary deposits could be traced without excavation, and for this no labour was available at the time. Two of the less damaged structures measured about 9 feet 8 inches square, another 16 feet by 9 feet 3 inches, and the highest 15 feet by 9 feet 10 inches. These two larger ones appeared to have held four niches or cubicles in each of the two stories. All the structures are orientated from north-west to south-east and have openings on the south-east. The large slabs used for the outside walls measured up to 4 feet in length and were set in mud plaster. From the size of the niches it is clear that they were intended to hold complete bodies, not fractional burials, as in all the *damb*s met with since Makrān. As to the date of these sepulchral structures I could form no opinion.

The ruined fort, which tradition, as the word *gōra* (i.e. *gabrā*) in the name shows, ascribes to pre-Muhammadian times, is situated at an elevation of about 200 feet above the foot of the narrow rocky spur where this forms a small terrace flanked by precipitous cliffs. The walls, all built with rough blocks of locally quarried limestone, form an irregular quadrangle and are very badly decayed. The longest face, which runs north-east and south-west, measures about 180 feet and appears to have been protected by a bastion near the southern corner. A somewhat larger bastion at the northern extremity of the circumvallation guards approach from the very narrow neck of the spur. The scanty potsherds comprised coarse red and dark-brown ware, all plain, with a few green

glazed pieces, no definite chronological indication being afforded by them. The same remarks apply to the pottery remains found over an extensive area of low debris about half a mile to the south from the foot of the spur, evidently from completely decayed dwellings built, like those of Warāwī, with rubble and mud plaster.

Crossing ground cut up by branches of the flood-bed, we reached a line of low limestone hillocks which crop out down the middle of the wide valley trough. The westernmost of these had been described as bearing traces of an old settlement, but the only remains definitely recognizable were a circular well cut through the rock at its foot and a cistern similarly cut at the foot of another hillock.

After returning thence to Warāwī, I visited a series of small caves visible across a wide boulder-strewn fan at a distance of about $1\frac{1}{2}$ miles to the north-east of the village. These have been roughly excavated, undoubtedly by the hand of man, in the comparatively soft limestone conglomerate of a low ridge at the foot of the northern range of hills. The caves, of which I counted at least thirty, riddle the narrow end of the ridge for a distance of some 150 yards, about half of them lying on the opposite side of the ridge where it is adjoined by a deep ravine. These caves, which vary much in size, consist mostly of a small roughly circular or oval chamber measuring up to 15 or 16 feet across and provided with little niches on the sides, probably meant for storage. Quite low passages lead from some of these small caves to others on the opposite side of the ridge. There was nothing to suggest that these rough excavations had served as places of burial. Their probable use as troglodyte dwellings was indicated by small built-up platforms found in front of some of those facing towards Warāwī village. Nowhere did the floor seem to be overlain by refuse such as might result from long-continued occupation. But there was evidence of the caves being still occasionally used as shelters by herdsmen. The absence of any provision for water by storage tanks or wells was puzzling.

On returning in the evening to Warāwī I was met by the disappointing intelligence that letters from Zāl Mirzā, the Tarakuma headman, received by both Sohrāb Khān and the commander of our escort, emphatically declared his inability to supply transport for our proposed move to Ishkanān or to ensure our safety on the journey. The tribe was described as being wholly out of hand owing to the disturbing effect of the fighting between the troops and the Qāsh-qais supporting 'Alī Khān's rising. In the face of this report Sohrāb Khān could not be expected to offer effective aid towards an attempt to reach Lār via Ishkanān. It was equally obvious that our small escort of conscripts could not have protected our party from being plundered *en route*. So, however reluctantly,

I had to decide upon a return to the coast. Aware of the difficulties to be encountered on a return to Galehdār, I insisted on arrangements which would take us across the coastal range by a new and as yet unsurveyed route.

Fortunately Sohrāb Khān was able to propose a route which, though very difficult even for donkeys, would allow us to reach the mouth of the Gābandī valley without having to pass either that part of the Warāwī tract that had thrown off his authority or to enter the Tarakuma area. But it cost him protracted negotiations with his obstreperous people lasting all through the next day before some arrangement for the transport of our impedimenta could be secured, on terms extortionate in a measure, yet not altogether amounting to blackmail. It was evident that but for Sohrāb Khān's persistent exertions 'public feeling' at Warāwī would have chosen to exploit the opportunity for plunder even in preference to blackmail. The whole day's trying proceedings afforded an interesting experience of local authority exercised under the prevailing tribal conditions.

Next morning fresh trouble and delay occurred before the baggage could be sent off on thirty-five donkeys with their loads reduced to minimum weights. For mounting our whole party two mules of the Khān had to suffice, while twenty of his armed followers were to assure protection (Fig. 50). For 6 miles the route led across the wide valley to the hamlet of Hōzī at the foot of the coastal range. Then followed a troublesome ascent in a steadily narrowing gorge where the donkeys, lightly laden as they were, could be taken only with difficulty over slippery rock faces or through the deep pools formed by a small stream at the bottom of the boulder-filled ravine. At a point known as Chāh-i-gul, some $4\frac{1}{2}$ miles above Hōzī, where the ravine widened just enough for tents to be pitched, we halted for the night, while pickets guarded the nearest rocky heights.

The ascent in the morning was at first easier, leading for a couple of miles over sharply tilted limestone ridges. Then, descending from their rocky crest by a steep, serpentine track, into a small side valley known as Burm, we came upon unmistakable proof of this route having seen regular traffic in old times, in the shape of a much-decayed cistern and a kiln for burning lime such as had been used for cementing its walls. This evidence was confirmed on the trying climb up the winding gorge by which the pass across the range is gained, as the steep path, where it ascends along narrow rock ledges, had been widened by slabs solidly set in mortar. Much of this old masonry has fallen away. But even before time had affected this piece of early engineering, the route can never have been practicable for any but lightly laden donkeys, mules, or ponies.

After we men on foot had gained the narrow gap in the crest of the limestone

range which forms the pass known as Kal-i-Fariāb, at an elevation of close on 3,000 feet, it still took two hours before the last of the poor donkeys had been helped to struggle up. On this portion of the ascent it would have been easy for even a small party of robbers to carry out a successful coup. So there was reason to appreciate the precaution which had induced Sohrāb Khān to send up overnight an additional posse of *tufangchīs* under a trusted relative to assure a safe passage.

The descent, though extremely stony, seemed easy compared with the gorge we had left behind. It led down a steep rocky spur jutting out like a ravelin from the almost perpendicular wall of limestone which here crowns the coastal range for a considerable distance. On a small patch of fairly level ground breaking the steep scarp of the spur was found a large and obviously old cistern lined with rough stones and cement. The place was said to be known from a murder committed in former times as Aliward-kushteh; and here our transport collected. Then the tiring scramble continued down the rubble-covered top of the same spur, flanked by the cliffs of a deep ravine, until at the bottom of a narrow glen a fine spring of fresh water was reached, and near it the small date-palm grove of Gaud-i-Akhand. Below this point the rock-bound glen contracts into a wholly impassable rift. So by a steep ascent of some 500 feet another precipitous spur had to be surmounted, and from a ravine at its foot a second spur crossed, before we gained the stony glacis whence the village of Akhand and the marshy shores of the great bay of Naiband could be sighted.

On arriving at Akhand we parted with some relief from our Warāwī protectors, who on the way had chosen to display a more or less truculent attitude. Nothing would induce them to let their donkeys proceed with us by the coast as far as 'Asalū, where, with assistance from the gendarmerie station, we might have hoped to secure fresh transport. The result was that in spite of the help afforded by the well-meaning Arab Shaikh of Akhand a whole day had to be passed there before the minimum of transport could, with much difficulty, be collected to allow of a move up the coast. It had by now become abundantly clear that the only chance of carrying out useful archaeological investigations inland lay in first reaching a base at Bushire from which contact with the central or provincial authorities could be secured. Ever since leaving Bandar Abbās it had been impossible to arrange for any postal communications.

On regaining 'Asalū by February 5th, along the track already followed on the journey to Tāhirī nearly a month earlier, the difficulties about transport on this famine-stricken coast proved just as great as or even greater than before. So I agreed to our escort commander's suggestion that we should shorten the journey by embarking in an open country boat found outside 'Asalū for Daiyir, a little

port some 40 miles beyond Tāhirī, where there would be some hope of obtaining camels. The difficulty of getting our baggage transported from camp to the sea-shore caused delay in embarkation. Midday had passed by the time we had men and impedimenta crowded into the frail little craft, measuring some 45 feet from bow to stern and only 8 feet wide. The favourable wind from the south (*kausbī*) on which our *nākbudā*, the boat-master, relied, changed by the evening under a cloudy sky to one from the east (*barrī*). All the same, skilful tacking had brought us early in the night well beyond the lights of Akhtar village up the coast above Tāhirī.

But about 2 a.m., when I was awakened by a trying buffeting of the little craft and much raucous shouting on the part of our Arab crew, I found that a violent *sbamāl*, the dreaded north-west wind of the Gulf, had sprung up and rendered all hope of gaining Daiyir futile for some time. While lying awake on the little poop I realized how hard put our skilful sailors were to keep the boat's head towards Tāhirī and prevent our being driven back beyond the place we had started from. By daybreak they had managed with much toil to gain the roadstead south of Tāhirī, and later on to drop anchor within a mile or so of the small fishing hamlet of Parak (Fig. 77). The sea being very rough, it took hours and some clever manœuvring before the badly leaking craft could be brought under such shelter as a fuel-laden boat anchored within a couple of furlongs from the shore could afford. Regard for the misery still being endured by our men and escort crouching amidst the baggage in the open hold then made me decide to abandon the hapless maritime venture and return to land. But with a single small fisherman's boat secured from the shore the landing was not safely accomplished till the afternoon.

The attempt to expedite our journey towards Bushire had lamentably failed. Yet trying as the experience had been—and the originator of the attempt was now loudest in his condemnation—it had provided in a way a useful antiquarian lesson. It let me realize better than I might have done otherwise how the men in Nearchos's fleet may have felt in their crowded small ships which afforded but little protection from weather and sun, when making their way along a coast so exposed to strong and rapidly changing winds as that of the Persian Gulf.

At Parak we might have remained stranded for an indefinite time through want of transport, had not a fortunate chance on the morning after our arrival brought from Tāhirī a major of gendarmerie engaged on inspecting the line of posts extending to the lower end of Gābandī. This energetic and obliging officer, a distant relative of our escort commander, when informed of our plight, dispatched urgent orders all up the line to collect camels for our onward move. So after a three days' halt at Parak a sufficient number of animals were collected

to enable us to set out by February 11th. A long march carried us past the ruins of Sīrāf and then, as the track along the shore was said to be covered by the tide at the time, along the open valley of Dōband, of which I had visited a portion already while encamped at Sīrāf. No further remains of occupation were met here. We followed the barren coast, overhung by conglomerate terraces beyond Akhtar, and after nightfall we reached the large village of Tumbak, which we found mostly deserted as a result of the famine.

Another fairly long march on February 12th brought us to Daiyir, a small port which seems to enjoy some trade as it serves as the outlet for the southern portion of the comparatively fertile and well-populated district of Dashtī. The route as far as the village of Kangān led along the foot of the steep maritime range, which is there broken by a wide valley descending from the north-west. The river draining it carries a good deal of water and, being tidal at its mouth, might in case of rain, which a cloudy sky had promised for some days past, have held us up. So I did not stop at Kangān to look for any remains of the small Portuguese factory which is stated to have existed there for some time, but thought it safer to push on past the well-cultivated fields of Banak to the river. Though some 150 yards wide at the ford, the water was deep, reaching up to the camels' bellies. The crossing was safely effected by dusk, and Daiyir, 3 miles farther on, was reached in the dark.

There was good reason to feel grateful for the timely passage of the river, for in the course of the night rain—for two seasons longed for in vain—descended in torrents, flooding part of the ground near the fort of Daiyir where our tents had been pitched in the dark. The gloom of a day spent amidst such conditions, with many of our belongings drenched, was lightened for me by the arrival of a runner sent from the Consulate-General, Bushire, bringing the first mails received for fully two months. No safe means for the dispatch of these postal accumulations had offered before our approach to Bushire had become known there.

Among the much delayed communications was the copy of a telegram addressed, at the very beginning of January, from the Tehrān Government to the Governor of the Gulf Coast at Bushire, conveying the order that all operations on my part should be postponed until the next (Persian) year. This order was obviously prompted by the tribal unrest in the area which at the very time of its issue I was about to approach from the coast. The absence of postal or telegraphic communications and consequently of knowledge as to my whereabouts had caused delay in the delivery of this order—not altogether to the detriment of my aims.

The news of the postponement imposed by this order would have been even more disappointing had my own experiences of the preceding month not con-

vinced me that there was no hope of proceeding with my programme of research as originally planned. But there remained the chance of a modification of the order being secured through the proper channel from Bushire, such as would permit of those researches being extended to ground removed from the disturbed area. This consideration supplied a special reason for accelerating the journey to Bushire, where early contact might be obtained with the authorities concerned. Accordingly a start was made up the coast on February 14th, as soon as the condition of the tents and other baggage after the deluge of the preceding day allowed it. No time could be spared for a visit to some ruined walls reported on a low sandstone ridge some distance to the north of Daiyir. The specimens of glazed pottery brought thence (see Daiyir. 6, 8; Pl. XXVII) showed distinct similarity to ware found at Sīrāf, and the description of the ruined walls as being built with mortar also pointed to occupation in Muhammadan times.

The day's short march took us first past a series of curious *mesas*, composed of strata of clay overlain by calcareous sandstone, so fantastically undercut and eroded as to suggest action by sea-water at a period not very far distant. This suggestion seemed to accord with the local belief that most of the absolutely flat ground west of Daiyir, stretching away from the present shore to those terraces, was covered by the sea in comparatively recent times. After crossing this poorly cultivated stretch we came, at a distance of about 5 miles from Daiyir, upon a considerable debris area known as Bībī-khātūn, from a *ziārat* marking the supposed burial-place of a holy lady. It extends for fully a mile to the west of a small hillock of calcareous sandstone by the sea-shore, up to a wide *kbūr* or creek. This is apparently still accessible for small boats, and is likely to have afforded shelter to craft on an otherwise exposed stretch of the coast. The site is covered with completely decayed remains from structures built with rough pieces of stone and mortar, just like those of Sīrāf; and the plentiful fragments of glazed ware, much of it relief-decorated, to be picked up among the ruined low walls, suggested occupation approximately of the same period. Some 6 miles beyond this site we halted near the small village of Betāneh, the name of which local popular etymology derives from *būt-kbāneb* ('house of idols').

The next two marches carried us over ground of singular uniformity to where the Mānd river rising in the mountains of Fārs debouches into the sea. The route led all the way over flat stretches of ground from $\frac{1}{2}$ to $1\frac{1}{2}$ miles in width, separating the foot of a sandstone hill chain from the sea-shore. Great mud flats extending beyond this for miles seemed to indicate that here also the sea had been receding. Plantations of date-palms and scattered small hamlets were passed most of the way, but no old remains could be traced either here or on the wide alluvial plain through which the Mānd river makes its way to the sea.

Beyond the large village of Bardakhān-i-nau, where we arrived on February 16th, this plain presented itself as a great deltaic waste, scrub-covered in parts, but elsewhere of bare sand liable to inundation. The river being in flood and quite unfordable even higher up, we had to follow its winding terminal bed down stream for some 16 miles before we reached a point where a small craft at anchor was found to carry us across. The business of getting our baggage on board by means of a leaky little boat was not finished until after dark, and the night had to be passed on board under conditions compared with which the accommodation afforded by the vessel that carried us on our sea venture seemed almost luxurious. The unloading on the opposite shore next morning was equally slow and troublesome, and not till the afternoon could fresh transport be collected for a move to the village of Lāvar.

For the rest of our journey our route led along the narrow strip between the sea and the utterly bare and wildly eroded sandstone range separating it from the wide plain of Dashtī eastwards. This ground, badly broken by numerous ravines and not easy of access from the other side of the range, could never in historical times have accommodated settlements of any size. I had chosen this, the most direct, route to Bushire in the hope of being able to avail myself of motor transport on the road which was said to have been under construction for some time past. But though traces of it could be found near Lāvar, it must have been completely washed away by streams in many places farther on—if it was ever made. With the scanty donkey transport it had been possible to secure, progress continued to be slow until I was met on February 20th, beyond the village of Bulkhair, by a couple of Chevrolet cars which, in response to a request sent ahead from Daiyir, Major E. Gastrell, British Consul at Bushire, had kindly dispatched to expedite my arrival. The road leading across a succession of ravines and much eroded rocky ridges was difficult enough until more open ground was reached near the Tangistān plain. All the same, thanks to this timely help and the pluck and skill of the Persian drivers, I reached in the evening the hospitable roof of the Residency at Reshire (Rīshahr), where the Hon. Colonel T. C. W. Fowle, C.I.E., British Political Resident in the Persian Gulf, and Mrs. Fowle offered me the kindest welcome.

SECTION III—CONCLUDING STAY AT BUSHIRE

My visit to Bushire had been directly caused by the tribal disturbances which barred access to the ground originally included in my programme, and my prolonged stay there was due to the same unfortunate incident. Everything pointed clearly to the official order from Tehrān postponing further field-work on my

part having been prompted by regard for the conditions which for the time prevailed in that particular area and the extension of which to neighbouring areas might be apprehended. Hence there seemed reason to hope that by proposing to transfer my investigations to ground far away from it a modification of that order might yet be secured.

There is no need to record here at any length the repeated and strenuous efforts which experienced advice kindly offered at the Residency and the Consulate-General encouraged me to make for this purpose. Nothing could have exceeded the friendly interest with which my representations on the subject were supported by the British diplomatic representatives with the local, the provincial, and the central authorities. Whatever opportunities were afforded by personal interviews with the well-disposed Governor of the Coast and by appeals by post and telegraph for consideration at Tehrān were promptly and fully used. As week after week passed in these efforts and the anxious suspense they entailed, I had reason to appreciate all the more gratefully the encouraging sympathy of my kind hosts and all the care and comfort enjoyed under their hospitable roof after that time of hard travel by the coast.

The hopes entertained for a time of being allowed to extend my survey of old remains to the Dashtī valley or to the coastal tract farther up the Gulf gradually receded during these weeks of anxious waiting. At the same time the increasing heat showed only too clearly that the remainder of the season still available for field-work on such low ground would soon pass. The effects of this uncertainty and delay might have been less felt by me if Bushire itself had offered more opportunities for useful fresh observations.

The peninsula at the northern extremity of which the present town and port of Bushire is situated is about 16 miles in length. It has undoubtedly been occupied from very early times,¹ and has long been safely identified with the peninsula of *Mesambria*, where Nearchos on the voyage to the head of the Gulf found 'many gardens and all sorts of fruit trees'.² But apart from the scanty remains of Rīshahr (Reshire), situated some 7 miles to the south of Bushire, which late medieval Arab geographers mention as a modest port,³ the only early site so far traced is the ruined mound situated about the centre of the peninsula, a short distance to the east of the British Residency at Sabzābād. It had been carefully explored by M. Maurice Pézard in 1913, after previous discoveries had proved the great antiquity of the site.⁴ M. Pézard's exploration showed that the upper

¹ For a careful account of Bushire, which has replaced the medieval port of Rīshahr (Reshire) only in comparatively recent times, and its history, see Wilson, *Persian Gulf*, pp. 73 sq., 176 sqq., &c. (Index).

² Cf. Arrian, *Indikē*, xxxix. 2.

³ See Wilson, *loc. cit.*, p. 74. The notices of *Rīsbahr* collected from earlier Arab authors by Schwarz, *Iran im Mittelalter*, pp. 120 sqq., refer to a town probably situated inland to the north.

⁴ For M. Pézard's excavations see his *Mission*

portion of the mound contained the remains of an Elamite settlement which, by the evidence of inscribed bricks, belonged to the latter half of the second millennium B.C. The underlying portion of the mound yielded a quantity of relics dating from a chalcolithic settlement. They comprised coarse painted pottery, corresponding to the types known as Susa I and II, stone implements and some copper fragments.

M. Pézard's systematic excavations were carried by large trenches with a maximum depth of about 27 feet right down to the natural soil, and have been carefully recorded. The conclusions drawn from them can hence be safely accepted. Among them there is one which, in view of the observations made by me elsewhere along the coast of the Gulf visited, is of wider interest and calls for special notice here. I mean the definite evidence here afforded of chalcolithic occupation having existed in close vicinity of the sea-shore.⁵ The location here of a prehistoric settlement contrasts strangely with the fact that, in spite of careful search, I had not been able to trace chalcolithic or other prehistoric remains anywhere on the coast-line I had followed for close on 350 miles from Mīnāb upwards. On the other hand, definite indications of medieval occupation of sites adjacent to the sea-shore were found at a number of points from Old Hormuz onwards to beyond Daiyir.⁶

This absence of any prehistoric relics at places which in early medieval times, if not before, can be proved to have served as ports and by their geographical situation are specially destined to serve as such, led me at first to entertain doubts as to whether the Persian Gulf could have seen in prehistoric times any maritime development such as is abundantly attested for later periods by historical records and by archaeological relics. But several observations have since suggested to me another possible explanation for the negative fact above indicated.

In my account of Old Hormuz harbour I have already described how its remains are to be traced on ground which is liable to be flooded at high tide, and

à *Bender Bouchir*, *Documents archéologiques et épigraphiques*, Paris, 1914 (Mission archéologique de Perse, vol. xv), pp. 1-38, Pls. I-IX, including a useful sketch-map by Lieutenant G. Pézard.

For earlier finds cf. Captain A. W. Stiffe's paper, *Geogr. Journal*, 1897, March, pp. 313 sqq. A series of bricks bearing cuneiform (Elamite) inscriptions had been recovered here by the late Professor Andreas about 1877.

⁵ The mound excavated by M. Pézard and situated as the detailed map prepared by the Survey of India on the scale of 4 inches to 1 mile shows,

1,300 yards south-east of the Sabzābād Residency, rises within about 1½ miles from the nearest point of the sea-shore. It is practically the highest point of the whole peninsula, rising to 132 feet above sea-level. It occupies a position approximately half-way between the shore and the edge of a wide belt of muddy ground to the east, which is liable to inundation from a creek to the south and is impassable after heavy rain. Immediately to the south of the mound lies the head of the deeply eroded nullah to which I shall have occasion to refer below.

⁶ See above, pp. 184 sq., 194, 199, 204 sqq., 233.

could not possibly be used now for landing and storing merchandise or for habitations. There is clear evidence at this point that here at least the level of the present shore-line is lower than it was in the thirteenth century, when Old Hormuz was still frequented as an important port of Fārs and Kermān.⁷ Dr. K. Washington Gray, a geologist of wide experience in Southern Persia, to whom I took the opportunity of referring this observation when at Fasā in January 1934, has been kind enough to furnish me with the following interesting note:

With regard to the Post-Medieval rise of the sea level which you noted at Mīnāb, I have found the following in the paper entitled 'Stratigraphy and Tectonics of the South West Iranian ranges' by de Böckh, Lees, and Richardson which is included in Gregory's compilation, *The Structure of Asia*, p. 118: '... in the Kuh-i-Mund and near Tāhīrī the Pleistocene raised beaches, which overlie the folded Bakhtiari, are tilted down towards the Gulf.' The downward tilting is presumed to be due to compression of the Gulf basin. Your observation at Mīnāb shows that part of this Post-Pleistocene downward tilting has taken place in the last 600 years. We do not know when the movement started, but if a cycle of downward warping followed directly on the last Pleistocene breakdown which raised the beaches, it would be in operation considerably before 4000 B.C. The amount of downward movement accomplished between 4000 B.C. and the present would probably be much greater than that accomplished in the last 600 years, and may well have drowned all chalcolithic coastal settlements. How far these movements are local only, I can't say. Evidence in Oman suggested that this was so.

This assumed Post-Pleistocene downward tilting need not have affected all parts of the coast uniformly. Hence the fact that the quay walls of Sīrāf, which can scarcely be later than the eleventh century, still rise at their base some feet above the sea (Fig. 69), need not be taken as definite evidence to the contrary. It is also possible to assume that a wider stretch of foreshore had there been intentionally left unprotected to facilitate landing and loading operations from boats used in the shallow water. So much, however, is clear that until very careful geological observations become available for all points of the coast-line which might have served for anchorages or fishing settlements in prehistoric periods, this 'drowning' of chalcolithic remains may well afford an adequate explanation for the negative evidence I had noted.

I am not aware of any definite indication being available on the Bushire peninsula as to changes within historical times in levels relative to the sea. The height of the ridge composed of layers of calcareous rock overlying clay which stretches all along the peninsula, and accounts for its formation, was bound in any case to preserve the chalcolithic mound on its top, while other remains of the same period situated close to the flat parts of the sea-shore might well have become submerged. But that changes affecting the surface of higher portions of the

⁷ Cf. above, pp. 184 sq.

ridge and quite distinct from any changes relative to the sea have taken place within historical times was clearly shown by what I was able to observe within and along the deeply eroded drainage bed stretching south of Sabzābād towards the hamlet of Halīleh.

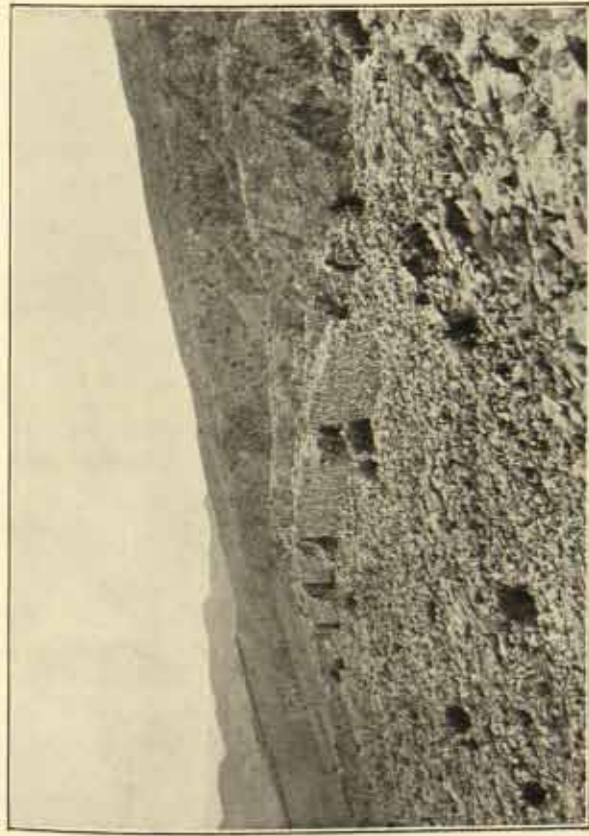
Following the western edge of the gradually widening nullah in which this bed lies, I came, at a direct distance of 1,700 yards from the Residency, upon the unmistakable traces of an old *qanāt* cut through the top layer of cretaceous sandstone and ending on the edge of an eroded ravine draining into the nullah. Square shafts descending into the underground channel mark its course for about 60 yards. About 1,000 yards farther to the south there is the channel of another *qanāt*, about 2 feet wide, with its bottom, which is now exposed, lying at a depth of some 4 feet from the surface of the ground. The traces of this *qanāt*, and of another visible about 400 yards farther on, become lost amidst the masses of fallen rock crust marking the western edge of the nullah. It is quite obvious that these canals, leading eastwards from the plateau, now much reduced in width, which skirts the nullah at an elevation of some 40 to 50 feet above its bed, were intended to carry water for irrigating ground which lay either where the wildly fissured nullah now extends, with an average width of between 1,300 and 1,700 yards, or else to a cultivable area beyond it.⁸ The formation of this nullah must have taken place since these underground canals were constructed, and there can be no possible doubt about its having been caused by the eroding action of rain-water.

The above observations were completely confirmed by what the inspection of another old *qanāt* on the opposite (eastern) side of the nullah showed. There, at a distance of close on $1\frac{3}{4}$ miles south-east of Sabzābād and close to the road running along the top of a narrow plateau tongue, the line of a canal can be followed for more than 300 feet in the direction of a terrace above the date-palm grove of Bulbulī village to the south-east. At the start near the road the canal is represented by a surface channel, cut into the rock to a depth of half a foot and $1\frac{1}{2}$ feet wide. This leads to an oblong shaft, $4\frac{1}{2}$ feet long and 2 feet wide, cut into the rock to a depth of 5 feet. From here onwards the *qanāt* ran underground, marked by similar shafts on the surface at short intervals, or else, where the rock above the canal has given way and collapsed, by a line of hollows. Finally,

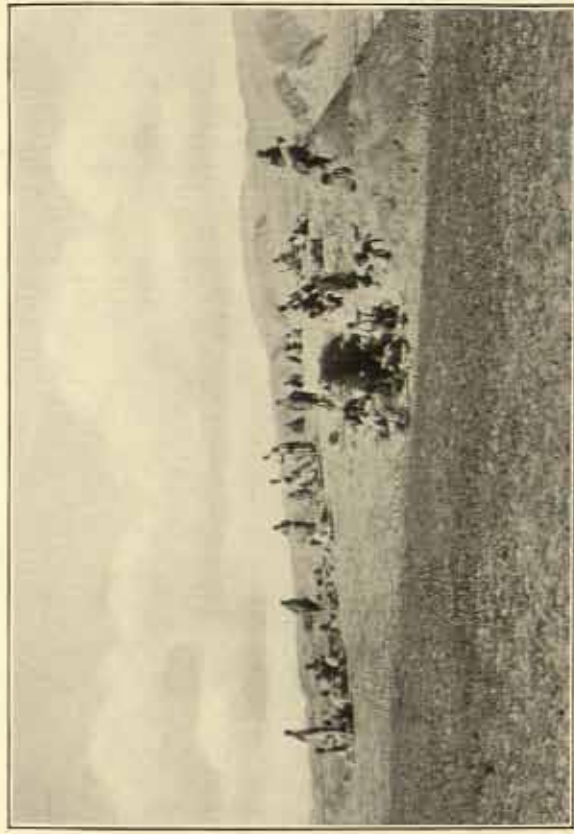
⁸ Lieutenant G. Pézard has duly noted, *loc. cit.*, p. 36, para. ix, the cavity at the end of the first-mentioned *qanāt*, formed by erosion subsequent to its use, and marks it in Pl. IX with the name *Eikat Kraoui*. He mentions the local belief of this cavity having served as a troglodyte habitation. The other two *qanāts* are also briefly recorded by

him on p. 37, para. x.

I may here conveniently mention that the large-scale map of Bushire shows two *qanāts* in actual use, both descending from higher portions of the ridge to the eastern edge of the peninsula. One serves cultivation at the hamlet of Baghcheh, the other at Zangīna, east of Sabzābād.



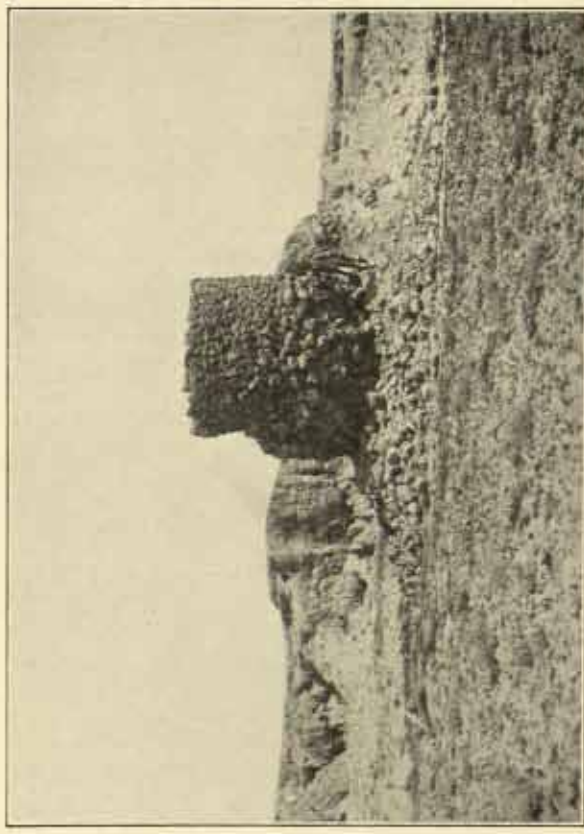
85. BASTIONED WALL ON TAKHT-I-PIRIST SPUR, ABOVE HARAJ



86. EXCAVATION ON PREHISTORIC MOUND, HARAJ



87. END OF QANÂT AT ERODED RAVINE, EAST OF SABZÂBÂD, BUSHIRE



88. REMAINS OF ERODED MASONRY OF WELL AT CHÂH-BULAND,
BUSHIRE

beyond the last shaft a shallow surface channel runs on to a patch of grass-covered ground, part of the terrace it was meant to irrigate. On the opposite (western) side of the road, which here runs along a small but distinct ridge rising up to 134 feet above sea-level, the continuation of the same *qanāt* can be traced in the shape of a straight line of hollows marking shafts, or where the rock crust covering the underground channel between them has fallen in. This line, about 180 feet in length, ends at the head of a ravine (Fig. 87) lined with eroded slabs of rock and draining into the nullah below.

Descending into the nullah to the south-west and crossing the drainage bed at its bottom, I found small terraces rising between deeply eroded small ravines and covered with low remains of walls built with roughly cut stones in regular courses but without mortar. These terraces extend for about 300 yards from north to south and are obviously 'witnesses' marking the original ground level, which has been preserved there by the protection the ruined structures above it afforded. The fragments of turquoise-blue pottery with low relief decoration picked up among these decayed walls resembled those common at Sīrāf and suggested occupation in early Muhammadan or possibly Sasanian times.⁹ Erosion around these terraces had obviously been facilitated by the absence within the wide nullah of the overlying cretaceous rock which forms the surface on the flanking plateaux. This had evidently become denuded at some earlier period, thus permitting of cultivation on some patches of ground within the depression.

In a broad bay on the western side of the nullah, about 300 yards to the north of the ruins just noted and not far from the series of *qanāts* first observed, there rises a curious tower-like structure (Fig. 88) known as *Chāb-buland* ('the high well'). At first sight this was rather puzzling; but close examination soon showed that the lower portion of the structure, for a height of about 9 feet, consists of the rough stonework forming the lining of a circular well, with an outside diameter of about 17 feet. This had once been below the ground, but had been laid bare by erosion of the surrounding soil. That this erosion had proceeded even farther was shown by the small mound, about 4 feet high, on which the well foundation now rises. On top of the thick masonry that once lined the top of the well rises a circular wall about 6 feet high and measuring approximately 10 feet in diameter, which probably enclosed the well above ground. The interior of the well is filled with earth and rubble. From the top of the masonry which lined the well a hard earthen ramp leads down on the south side to the present ground level. This obviously represents the slope, probably once roughly paved or

⁹ These remains of old walls appear to be referred to by Lieutenant G. Pézard in the brief description he gives, *loc. cit.*, p. 37, of what he assumes to be probably the site of a Portuguese fort. There is no evidence to support this attribution.

lime-plastered, down which the bullocks, drawing water in skins from the well, were driven in the fashion still prevailing in the locality.

The observations made at the Chāh-buland strikingly illustrate the rapid progress of erosion on this ground once the rocky surface has been denuded. They also help to explain the origin of similar but smaller towers to be seen in several places within the depression south of Sabzābād.¹⁰ It deserves to be noted that the mound explored by M. Pézard rises on a broad terrace within two northern branches of the depression. According to the contours of the map on the scale of 4 inches to 1 mile, the foot of the mound lies just 100 feet above sea-level, whereas the bottom of the two ravines flanking the terrace lies more than 20 feet lower. The approximate rate of erosion since chalcolithic times indicated here for the head of the nullah seems to correspond closely enough to the difference between the levels of the terraces previously described as bearing remains of old walls (86 feet by the map) and of the adjacent plateau edge with *qanāts* (100 feet). But, of course, erosion is likely to make itself felt with greater effect at the lower portions of the nullah than at its head.

In this connexion it may be of some interest to note that according to the meteorological records kept at the Consulate-General, Bushire receives a rainfall which, though erratic, is on the average fairly adequate. During the years 1921 to 1931 it averaged 11.46 inches per annum, with a maximum of no less than 23.60 inches in 1924, and a minimum of only 2.92 inches in 1922. It is scarcely necessary to note for the geographical student that the erosive force of rainfall is far greater in an arid or comparatively arid region than in lands with a temperate climate where vegetation protects the soil.

Before concluding these notes on points of some antiquarian interest at Bushire two observations may find record. In several places of the bare ground in the vicinity of the Residency groups of stone heaps attracted my attention by their apparent resemblance to burial cairns such as became familiar to us in Makrān and elsewhere. Some two dozen found scattered over the plateau to the east of the Residency, and at a distance of about 1,000–1,200 yards north of M. Pézard's mound, were all small, measuring up to 4 feet in diameter and not exceeding 2 feet in height. Two of these were opened, but they yielded no finds. Among another group, comprising about a dozen of somewhat larger 'cairns' situated about half a mile to the south-east of the Residency on a plateau tongue, one little mound, faced with unhewn stones and measuring about 16 by 14 feet at ground level with a height of 4 feet, was carefully searched. In its centre, filled

¹⁰ It is possible that by the reference Lieutenant Pézard makes, *loc. cit.*, p. 36, para. viii, to numerous 'tours cylindriques ou tronconiques' about the

nullah, which he compared with the towers of Portuguese forts at Masqat, such ruined wells are intended.

with earth and loose stones fragments of pottery, both plain and glazed, turned up at depths of 1 to 3 feet from the top. Neither bones nor any objects definitely recognizable as funerary deposits were discovered. In view of this negative result no further infringement of the official order seemed advisable. But the probability of these little mounds being meant for burial cairns deserves to be kept in view.

The other observation relates to the abundant chips and flakes of reddish chalcedony which, as has been frequently noticed by others, are to be found on the surface of the ground in various localities about Reshire and Sabzābād and elsewhere also.¹¹ That their plentiful occurrence indicated the existence of a long-standing local industry dealing with the cutting of such semi-precious stones has been recognized for years past; and beads as well as seals made from this material are said to be often collected about Bushire and offered for sale. Mr. Jackson, a local resident, had told me of the occurrence of unworked chalcedony in layers of clay, known as 'Shiraz mud', to be found exposed in places on the sea-shore. It was of interest to me to find this statement confirmed by my being able to pick up an unworked lump of the stone embedded in an outcrop of such a stratum under the sandstone cliffs that rise to some 17 or 18 feet above the shore close to the west of the so-called Portuguese fort of Reshire (Rīshahr).¹² In view of the well-established local character of this industry and its obvious dependence on export, it would be of interest to secure archaeological evidence as to how far the distribution of its products by early trade can be traced.

By the middle of March it had become only too clear that the removal of the difficulties placed in the way of resumed field-work could not be hoped for through efforts made from Bushire. But before arranging to return to Kashmīr, where the summer could be best utilized by me for writing work, it appeared advisable to pay a short visit to Shīrāz and make a final effort to obtain permission to resume work by explaining my objective personally to the Governor-General of Fārs Province. I accordingly left Bushire on March 21st for Shīrāz, gratefully appreciating for the time the escape from the moist heat of the Gulf coast. The advent of Naurōz, the Persian New Year, religiously observed throughout the land as a prolonged official holiday, would not allow immediate personal conduct to be gained with that high functionary. But fortunately the

¹¹ Cf. Captain Stiffe's note on Rīshahr, *Geogr. Journal*, 1897, March, p. 313 sq., with a reference to Sir William Ouseley's observation on the evidence of a local gem-cutting industry; also Pézard, *loc. cit.*, p. 28.

¹² The attribution to the Portuguese of this

large defensive work, a quadrilateral measuring about 500 by 400 yards with a wide rock-cut fosse is quite uncertain. Such potsherds as I could find within the circumvallation afforded no clear chronological indication.

few days' interval could be used with great profit and pleasure for a renewed visit to Persepolis. Received there once more by Professor Ernst Herzfeld with the kindest hospitality, I was able at that, the grandest of all early sites of the New East, to gather instructive impressions of the important new discoveries which since my preceding stay had rewarded the labours of the leading explorer of the ancient monuments and history of Irān. Those three days full of profit and scholarly interest and stimulating in every way will always be cherished by me in grateful remembrance.

A very fortunate chance had caused my short stay under the hospitable roof provided by Professor Herzfeld at the palace which once housed the seraglio of the King of Kings, to coincide with a visit paid to Persepolis by Monsieur A. Godard, the Director of Antiquities in Irān, then on his way to Shīrāz. Thus a favourable opportunity offered to acquaint that distinguished and ever helpful archaeologist with the obstacle immediately facing me, and to ask his friendly advice as to how to secure a renewal of permission for my explorations in the future if postponement for the time being proved inevitable. When, a few days later, we met again at Shīrāz I learned without much surprise, both through M. Godard and direct from the Governor-General, that a continuation of my archaeological work on the desired lines could not be allowed for the present.

Following M. Godard's kind advice, I at once prepared a fresh application intended for submission to the Government at Tehrān through the British Legation, setting forth in full detail a programme of exploration planned for the following autumn and winter within the great Province of Fārs. Assured of M. Godard's readiness to recommend it to the Ministry of Education for approval, I was able on March 29th to set out once more for Bushire with a mind freed from uncertainties and with revived hope for future work in Irān.

By April 2nd I sailed from Bushire for Karachi, cheered by the kind wishes of Colonel and Mrs. Fowle and Major Gastrell, who had done so much by their sympathy to lighten the cares of my preceding long halt there. Before seeking the quiet of my Kashmīr mountain camp in order to get through the very heavy writing work that lay before me, I was able to devote a few weeks to a renewed tour in that beautiful valley of Swāt on the Indian North-West Frontier which, even after my successful explorations of 1926 on Alexander's track, had lost none of its antiquarian fascination for me. This tour in refreshing semi-alpine surroundings was made easy by the kind help of Major W. R. Hay, then Political Agent on the Malakand, and of that remarkable ruler and old friend, the Wālī of Swāt, until an unlucky riding accident cut it short and obliged me to seek Kashmīr prematurely for sedentary work.

Fortunately the suspense about my future plans was not unduly prolonged; for by the middle of August I was cheered by the receipt of a telegraphic message from H.B.M.'s Legation telling me that the proposed journey through Fārs had been approved by His Majesty the Shāh's Government. Early November saw me back at Shīrāz, ready to start afresh. My journey this time took me through that ancient Persis towards which I had tried to make my way before; but my account of the work successfully carried on there must find place elsewhere.¹³

¹³ See my report, 'An Archaeological Tour in the Ancient Persis', in *Iraq*, October, 1936, p. 111.

APPENDIX A

POTTERY FRAGMENTS FROM SOUTHERN PERSIA AND THE
NORTHERN PANJĀB

By R. L. HOBSON,
Keeper of Ceramics, British Museum

AMONG the ceramic fragments found on the various sites visited in Makrān and Kermān were many well-known types of Near-Eastern Islamic pottery. Some of it is difficult to date as it has been manufactured with little change over a long period and in all parts of Persia, e.g. the red or reddish-buff pottery with a thick silicious glaze varying from leaf-green through dark bottle-green to blue, a type which was current in Sasanian times and has continued almost indefinitely.

Much of it, on the other hand, can be compared with the material found on such key-sites¹ as Samarra in Mesopotamia and Brahminābād in Sind, and can consequently be assigned to a particular period (viz. the ninth and tenth centuries); and there is a residue of the familiar wares of Persia which were current from the twelfth to the seventeenth century.

On the whole, medieval wares predominate; but the finds are rarely consistent, and prehistoric and relatively modern pottery often appear cheek by jowl with the medieval types.

Much interest attaches to the evidence of local manufacture which emerged in several places, the most important being Tīz and Shahr-i-Dāqianūs. Tīz, situated in a large bay on the sea-coast, may even have had an export trade in pottery. It appears, at any rate, to have had an import trade, for the fragments of Chinese porcelain and stoneware found in the neighbourhood must have arrived by sea.

Leaving aside the prehistoric pottery which is discussed elsewhere, the group of sites visited in Makrān on the journey from Gwadur to Tīz yielded the following varieties of pottery.

Besides the ubiquitous and indeterminate red ware with green or blue glaze, there were Samarra and Brahminābād types which include:

1. Wares with splashed, or mottled, green and yellow glazes in the style of Chinese T'ang pottery.
2. Graffito wares with red body, a slip dressing and incised designs under a lead glaze coloured green or yellow or splashed with yellow or manganese.
3. Similar ware decorated with painted designs in slips, the spaces frequently filled with dots, as on the pottery found at Brahminābād.
4. Red ware with slip wash and bold brush painting in manganese under a lead

¹ A short explanation of the importance of these sites is given in the *B.M. Guide to the Islamic Pottery of the Near East*, pp. 2-10.

glaze; and more rarely with similar bold painting in underglaze blue in the Samarra style.

5. Isolated specimens of lustred ware at Dambaguh.

6. Plain greyish white ware of Samarra type.

The Samarra pottery belongs to the ninth century and the Brahminābād pottery cannot be later than 1020, when the city was destroyed. So that we can fairly place this pottery in the ninth and tenth centuries. Pieces of Chinese porcelain and stoneware found on several sites in Makrān confirm this impression. They vary from white ware and celadon similar to that found at Samarra, to *ying-ch'ing* porcelain which is probably of tenth century date.

Associated with these Samarra and Brahminābād types are certain varieties which are probably local. There is hard red ware with black slip coating and graffito designs under a rich purplish black glaze the colour of which is derived from manganese. There is graffito ware with green or yellow glaze in which the designs are strongly gouged out in wide lines instead of being scratched with a point. There are numerous pottery covers with deeply cut trellis design, almost in openwork, covered with green or green and yellow lead glazes; they have characteristic knob handles. And there is a red pottery with plain mahogany-brown glaze, something like that of the well-known Rockingham teapots, and often of great depth and brilliance. This last is certainly a local manufacture. Wasters of it—e.g. a bowl with spiral finish inside—and triangle spurs for supporting the wares in the kiln have been found on several sites at Tiz.

Besides this a 'spur' with mottled green and yellow glazes on it indicates the manufacture of mottled wares probably of the graffito class, and it may even be that some of the Samarra-Brahminābād group found locally was made here. Indeed, if that is so, we might hazard the suggestion that some of the pottery found at Brahminābād came from these kilns. There are many points of similarity between the wares found in both localities, not only in their general appearance but in some cases in a characteristic finish of the base. One notices that very often the Makrān bowls and dishes have the flat surface of the base channelled with a wide circular ring; and this peculiar finish is seen also in some Brahminābād fragments of green-glazed graffito ware.

A thick turquoise blue glaze, recalling that of the late Egyptian pottery, appears on fragments found on various sites. Sometimes the body is of the sandy white type. A fragment of this kind found at Tiz has a design of pure Islamic character; and this, in spite of its archaic appearance, can hardly be older than the tenth century. Another variety has a red body with dressing of white slip under the blue glaze. This is sometimes decorated with incised designs which disclose the red body under the blue glaze, creating the illusion of a decoration in purple. This ware was found at other parts of the route, e.g. Fanūch and Bampūr.

Painting in black is also used under a blue glaze, but in this case the glaze is thinner and more transparent.

Several kinds of unglazed ware were found. They include a red pottery painted in black which is very like the prehistoric painted pottery, and a quantity of buff or reddish-buff wares with elaborate decoration in moulded relief. These latter are the porous water vessels in general use in the Near East. A mould for the making of these wares was found at Tiz and points to a local manufacture.

There was also a dark coloured, unglazed ware with moulded decoration.

Dambaguh, north of Tiz, produced fragments similar to those of the other Makrān sites, with the addition of a piece of lusted pottery of the tenth to twelfth century type, and some later Chinese blue and white, probably dating from about 1500.

Fragments of glass found on the Makrān sites (when they admit of classification) are, generally speaking, similar to those found at Samarra and should therefore date from about the ninth or tenth century.

The sites visited on the journey northward produced pottery of very similar kinds, but with a larger proportion of the later Persian types. At Geh, Chihil-dukhtarān, the finds were very mixed, including fourteenth-century Persian tiles with blue and lustre decoration, star tiles with plain turquoise blue glaze, late copies of Chinese blue and white, and some pieces which seemed quite modern. There was also Chinese blue and white porcelain and celadon.

The sites near Fanūch yielded wares of graffito and slip-painted types, and other wares of the ninth or tenth century kinds, besides unglazed pottery painted in red or polished.

At Bampūr was found unglazed and painted pottery and a fine unglazed red ware with burnished lines, besides pottery with leaf green and dark peacock green glazes and some with black painting under a blue glaze. There were also copies of Chinese blue and white, apparently made in the sixteenth or seventeenth centuries.

At Pishukān and Dambiān, nearby, the medieval types—graffito, &c.—appear, and at Kalātuk the same mixed with late blue and white pottery.

Similarly mixed wares were found at Gulmurti, Kalanzū, and Penk on the journey north-west, while at Chāh Ghulām and Chāh Hasan graffito ware and pottery painted in manganese or in black, under a blue glaze, ranged from the tenth to the twelfth century.

Farther to the north-west Tump-i-Hazār-mardi produced a reddish ware with thick glaze as completely crystalline as that of the late Babylonian pottery—a phenomenon possibly due to the peculiar properties of the soil.

At Tump-i-Kharg tenth or eleventh century types were found, including lusted pottery, graffito, and slip-painted wares, a fragment boldly painted in manganese and yellow, and other pieces with dark peacock green or deep blue glazes. Water vessels were also found, and part of a mould which suggests a local manufacture of these necessary articles.

At the neighbouring Tump-i-Amīrābād slip-painted ware of tenth-century type was found together with blue-glazed pottery of the Rhages type.

The finds at Shahr-i-Dāqianūs in Jiruft were of much interest. There was a group of red wares (with flat bases) coated with slips either white or black, under a transparent lead glaze. They were decorated with graffito designs; painted in manganese and yellow; or painted with slips, chiefly white. Bold patterns in white on a black ground recalled one of the so-called Samarkand types.² Two triangular kiln supports used for this class of ware indicated a local manufacture for this group.

Other interesting types included mottled, blue and white, lusted wares, green glazed pottery with moulded reliefs all similar to the Samarra pottery, and a slightly

² See the *B.M. Guide to the Islamic Pottery of the Near East*, p. 21.

later kind of lustre, some of it on blue glaze; varieties of graffito ware, one piece having graffito decoration inside and applied reliefs outside; and pottery with boldly painted designs in manganese; besides the ubiquitous ware with leaf green or peacock-green glaze with or without relief ornaments.

Some glass found on the sites was mainly of the Samarra kind; and a few pieces of Chinese porcelain included a coarse yellowish white ware also found at Samarra, a celadon of Yü-yao type and probably of ninth century date, a finer celadon and *ying-ch'ing* porcelain, both perhaps tenth century.

Another feature of the finds here were the large numbers of unglazed water vessels. Many of these were richly decorated with moulded reliefs, and several moulds for the making of them were found with them. Evidently there was an important manufacture of these articles in the neighbourhood.

PANJĀB

With the exception of a few glazed fragments, perhaps foreign importations, found at Kahnuwān, and some obviously foreign wares which appeared on other sites, the Panjāb pottery is unglazed.

It consists chiefly of red or reddish-buff ware, and it is decorated in various ways, e.g. by painting in black, by scratching, by applied reliefs, by bands of white slip. Sometimes the surface is dressed with white or with black slip, or powdered with mica. Sometimes the whole or parts of it are roughed.

The glazed fragments found at Kahnuwān were painted in blue, or in blue and black, or with white designs on a black-dressed body.

Another group comprises a black ware which is sometimes finely polished. The decoration is cut, moulded or incised; and in some cases it is moulded with strong reliefs which include figures.

A third type is a greyish ware with curiously roughened surface.

These three wares seem to be of local make. They include figures of deities and of animals such as the elephant, camel, &c.; and moulds for making figures and other objects were found on several sites—Bahūr A, Bahūr B, Kukrānī, Sabzpind, Rathapind, and Amrāwālī Ālī.

There is little to indicate the date of their manufacture. The foreign wares, which were found here and there, included Chinese blue and white porcelain of fifteenth century date, Persian blue and white of the seventeenth and eighteenth centuries, and modern Japanese porcelain. Little or nothing can be deduced from such occasional interpositions and we are left to form our impressions from the general character of the wares themselves. Some of these are rough and archaic in appearance, and others show advanced technique. They were probably made over an extended period; but it is doubtful if any of them are older than the thirteenth century.

APPENDIX B

LETTER DATED JUNE 30, 1931, FROM SIR AUREL STEIN TO THE EDITOR OF 'THE TIMES'

The Times, in its Weekly Edition of May 21, the latest issue so far received by me, contains a notice of its Simla Correspondent concerning the abandonment of the expedition, archaeological and geographical, into Chinese Turkistan on which I had started from Kashmir some 10 months ago with the support of Harvard University and the British Museum. For the sake of those whom the results of my previous three Central-Asian expeditions (1900-1, 1906-8, 1913-16) as published in detailed reports under the orders of the Indian Government and in personal narratives may have induced to take some interest in this later enterprise, I may be allowed to supplement that statement by an account of the main facts as far as they bear upon the preparatory steps for this expedition and upon the obstacles which it encountered through the proceedings of the Chinese Government.

In May of last year the Chinese Minister of Foreign Affairs at Nanking, upon the recommendation kindly made by Sir Miles Lampson, H.B.M. Minister, sanctioned the issue to me of a passport authorizing me to trace and closely to investigate ancient remains in Hsin-chiang Province and Inner Mongolia. The object and scope of the proposed labours had been fully indicated in a memorandum submitted through the British Minister. They were also explained in some detail at an interview with Dr. C. T. Wang, which Sir Miles Lampson had very kindly secured for me and which he personally attended. The passport was understood to provide also permission for such survey work as would be found necessary in connexion with the above task. I had expressed the distinct wish to associate with my work a Chinese scholar and a Chinese topographer if competent helpers could be secured. But none was proposed by the Chinese Foreign Office nor were they otherwise obtainable during my stay at Nanking.

Regard for the fact that explorations such as contemplated in the waterless Taklamakan and Lop deserts are practicable only while the winter cold lasts and permits of water being carried for a large party in the form of ice induced me to hasten as much as possible the start from my base in Kashmir. Before, however, by the close of August more than one-half of the month's journey to the Chinese border on the Pamirs had been covered information was received that the entry of my party into Hsin-chiang was to be stopped under orders from Nanking. The effective intercession of the British Minister succeeded in removing this obstacle, but two weeks had been lost over an enforced halt. In order to meet the ostensible ground of the agitation fostered in certain Chinese press organs to which that action was attributed I had meanwhile offered a formal undertaking not to remove any ancient objects from Chinese territory without the previous consent of the Chinese Government. In the end I was asked to proceed to Kashgar, where arrangements were to be made for my proposed work.

On my arrival at Kashgar early in October, Captain G. Sherriff, the British Consul-General, who throughout offered most valuable help, found the local Tao-tai unprepared for such arrangements. Repeated telegraphic application to the distant provincial headquarters brought after a fortnight an intimation from the 'Chairman' or governor that I should proceed to Urumchi personally to discuss arrangements with him. This would have meant a caravan journey of at least six weeks, taking me far away from the desert areas where the winter's explorations were planned, and practically implying the loss of a whole working season.

Three more weeks passed before the chairman's assent was secured to my proceeding to Urumchi by a route which skirts the southern edge of the Taklamakan and which would allow me on the way to visit certain ancient sites abandoned to the desert sands. By the middle of November I was at last enabled to leave Kashgar for Khotan. Special reference by the Consul-General elicited definite official assurance that on my way I was to be allowed 'to work', i.e. to examine ancient remains and to carry out needful surveys. A subordinate Chinese official was to accompany and assist me, obviously for the purpose of watching and reporting my proceedings.

By the time I had reached the oasis of Domoko, in the vicinity of which I had reason to look for ruins of Buddhist times hidden among the dunes, serious obstruction began to manifest itself. The magistrate of the Keriya district declared that he had received instructions prohibiting any 'digging' or making of plans at ruins. Being an official of known anti-foreign disposition he did his best to prevent me from obtaining needful local guidance to ruins or labour to clear them of the encumbering drift sand. An old and faithful Turki follower of my former journeys was thrown into prison merely for having come to see me as I passed his village. It all strangely contrasted with the ready help and genuine interest by which on my former expeditions scholarly Mandarins had invariably facilitated my researches, and without which they would have been impossible for the most part.

When I resumed my way eastwards from Keriya, where an attack of bronchitis, brought on by exposure, had laid me up for a fortnight, the difficulties about labour, transport, &c., continued. Nevertheless, on revisiting the ancient site in the desert beyond Niya, a sand-buried modest Pompeii abandoned in the third century A.D., it was possible to supplement former investigations by useful surveys and finds. They were achieved under very trying physical conditions largely through the devoted efforts of my two Indian assistants.

By the middle of February we had made our way across a succession of forbidding high ridges of sand and past another old site to the isolated oasis of Charchan. There news overtook me that the Nanking Government had cancelled my passport and insisted on my returning to India. The official communication of the Chinese Foreign Ministry had reproduced a series of unjustified allegations which the body known as the 'National Commission for the preservation of Chinese antiquities', under the influence of the above-mentioned agitation, had brought forward about my former explorations. They were coupled with equally unfounded statements about my present aims. I could not meet these charges at the time from such a distance, but learned months later with all the more satisfaction that the President of Corpus Christi College, Oxford, a friend familiar with all my work, in a letter published in *The Times* of January 3rd had duly exposed the fantastic character of those statements.

Obliged now to turn back to Kashgar, I chose for good reasons the longer route leading past the Lop tract and what was until quite recently the terminal course of the Tarim river to the northern caravan road along the foot of the T'ien-shan. It thus became possible to collect useful evidence as to the interesting hydrographical change which has caused most of the Tārīm river's waters to join the Konche-daryā and thus to flow into the Lop desert about ancient Lou-lan. Another useful result of this journey extending over more than two months was that a chain of exact longitudes determined by astronomical observations and time signals could be carried all round the Tārīm basin. It was achieved through the unwearied exertion and skill of my surveying companion, Khan Sahib Afrāzgul Khān, in the face of serious difficulties.

Thus by the close of April our circumambulation of the whole Tārīm basin, over an aggregate distance of some 2,000 miles, was completed. It will render possible useful additions and corrections in numerous sheets of the atlas prepared from our previous surveys and published as volume iv of my *Innermost Asia*.

During the later portion of this journey I learned that representations of the British Legation had induced the Chinese Minister for Foreign Affairs to deny his having cancelled my passport or ever intending to do so. This declaration was coupled with a request for the submission of a detailed programme as to my intended labours. It was to be submitted under my own signature and to serve the purpose of 'allaying criticisms of certain learned bodies'. Neither of these points suggested departure from the obstructive tactics experienced since my start on this journey. Under prevailing postal conditions it would take months for a detailed programme under my own signature to reach Nanking. It was easy to foresee the still greater delay likely to result from its consideration by 'certain learned bodies' of China in the light of the wholly unwarranted allegations, &c., which had been advanced by the 'National Commission for the preservation of Chinese antiquities'. The Chinese savants and others who had signed that protest were obviously influenced far more by nationalist bias than by any knowledge of my past scholarly labours in this field and their aims.

The risk of indefinite loss of time through obstruction disguised under procrastinating tactics was clear enough and the experience of previous tergiversations far from encouraging. It did not seem advisable to face such loss of time at my age when the years for active work in Eastern fields of exploration are bound to be limited. So when a three weeks' wait under the hospitable roof of the Consulate-General had brought no reply to a wireless message promising to submit the desired detailed programme provided I were authorized meanwhile to utilize the approaching summer for work in a specified portion of the T'ien-shan, I felt obliged to decide for a return to Kashmir. Significantly enough the provincial authorities professed still to be ignorant as to the withdrawal of the order cancelling my passport.

Alternative plans of exploration on other ground had been considered by me at the outset and will now claim careful preparation. Before leaving Kashgar in the third week of May, all archaeological objects collected at sites or acquired from local searchers were submitted for the Tao-tai's inspection, on the understanding that they will remain deposited at the Consulate-General until the Chinese Government's orders are obtained as to their disposal. It must be hoped that with the help of the Legation permission will be secured for the ancient manuscript materials, mostly on wood

and in Indian script, to be made temporarily available for examination by Western scholars.¹

Perhaps the time may not be too distant when competent Chinese scholars will be prepared to recognize that researches bearing on the cultural past of their country have suffered by the obstacles which unjustified agitation has raised against continued work of a *confrère* who has done as much as any one to throw light on the great and beneficent part played by ancient China in the history of Central Asia.

¹ It was learned subsequently that the Consulate-General some time after my departure and that of Captain G. Sherriff was obliged to accede to the insistent demand of the Tao-tai of Kashgar, and to hand over the small collection into the precarious keeping of that dignitary. Nothing has been heard since about its disposal, and it appears very doubtful whether any of the objects will ever reach an authorized place of deposit.

Apart from stucco relief plaques, terra-cotta figurines, and similar small antiques from Khotan abundantly represented in former collections, there were among the acquisitions by purchase a few

paper manuscript fragments in Indian and Tibetan writing. Of more interest were a number of wooden documents recovered by me among ruined dwellings of the Niya Site (the ancient Ching-chüeh) dating from the third century A.D., partly tablets bearing Indian Kharoṣṭhi script and partly fragmentary Chinese slips. Foreseeing the likely fate of these documents in the hands of local officials, I had taken care with Captain Sherriff's friendly help to obtain photographs of these written materials. Arrangements have been made for their study and publication by competent scholar collaborators.

DISTRIBUTION LIST OF ANTIQUES

THIS List is intended to show the distribution of the selected antiquities shown in Plates I-XXXIV between Harvard University, the Iranian Government, and the British Museum, made in accordance with the proposal which was submitted with the recommendation of His Iranian Majesty's Minister at London, and approved by the Iranian Ministry of Public Instruction.

A small selection of objects most of which are not reproduced in the Plates has been deposited at the Iranian Legation, London, as suggested by His Excellency Mirza Hussein Alā, Iranian Minister at the Court of St. James, whose effective help in all arrangements concerning the distribution deserves to be very gratefully acknowledged here.

Objects allotted to Harvard University are indicated by a dagger (†); those allotted to the British Museum, by an asterisk (*); those allotted to the Iranian Government, by a double-dagger (‡); and the remainder are deposited at the Iranian Legation, London.

The very large remaining portion of the collection, numbering about 6,000 pieces, has been divided between Harvard University and the British Museum in shares approximately corresponding to six-sevenths and one-seventh.

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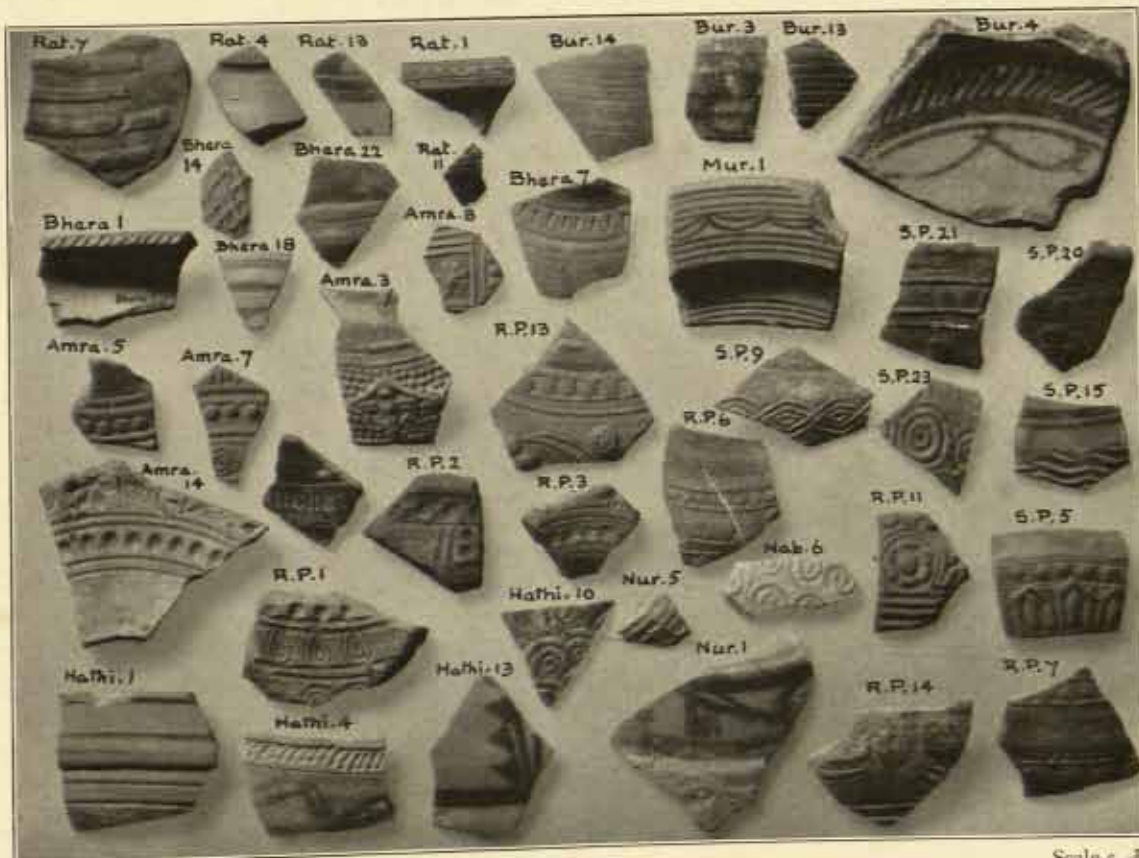
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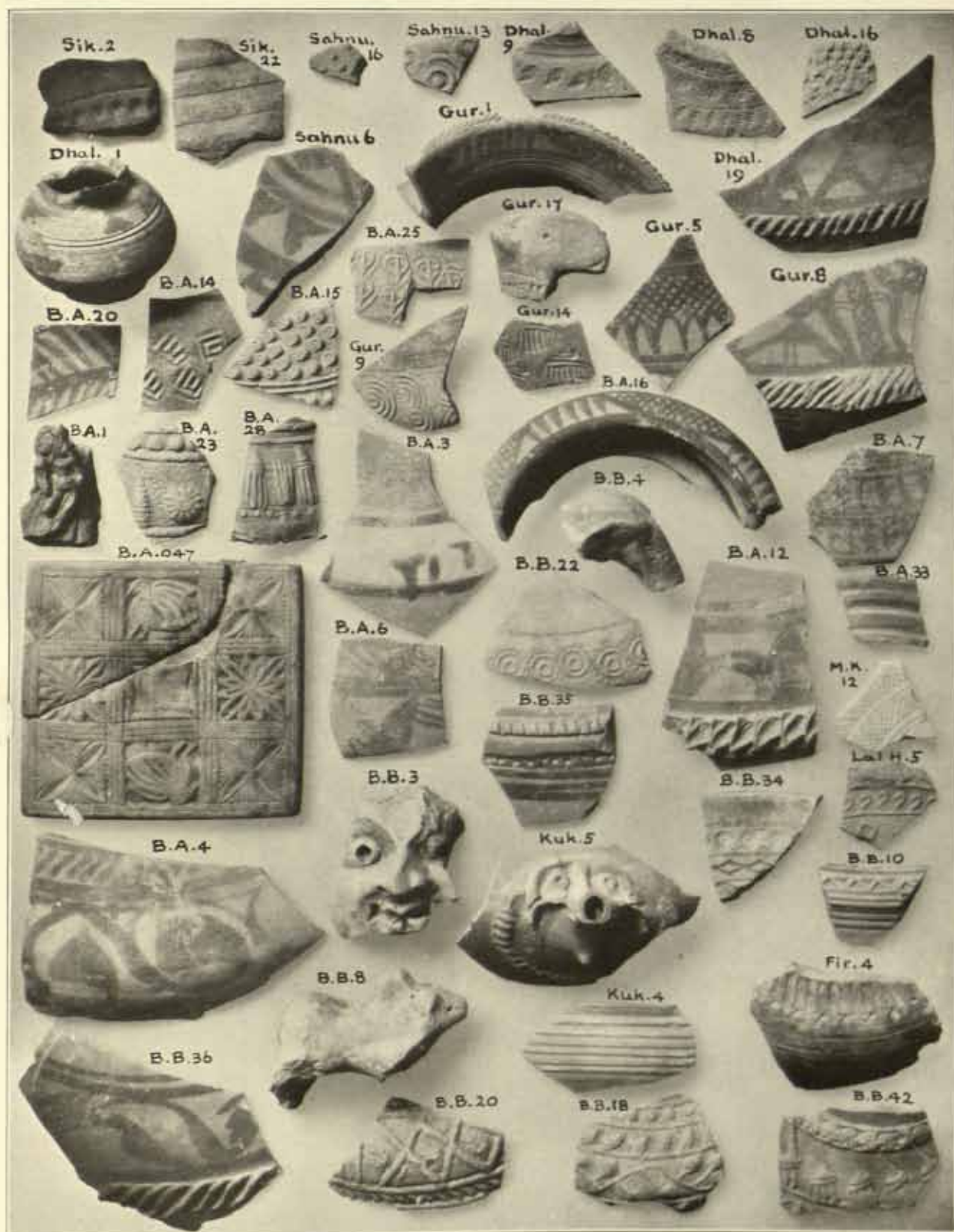
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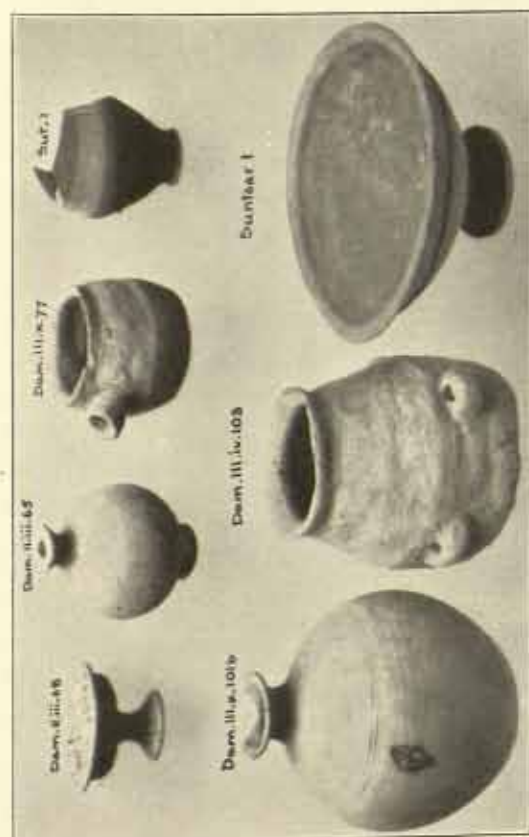
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FRAGMENTS OF ORNAMENTED CERAMIC WARE, MAINLY MEDIEVAL, FROM RUINED SITES NEAR BEAS AND JHELUM RIVERS, PANJAB; ALSO PERFORATED POTTERY (Sut. 5) FROM PREHISTORIC SITE, SUTKAGĒN-DŌR, MAKRĀN



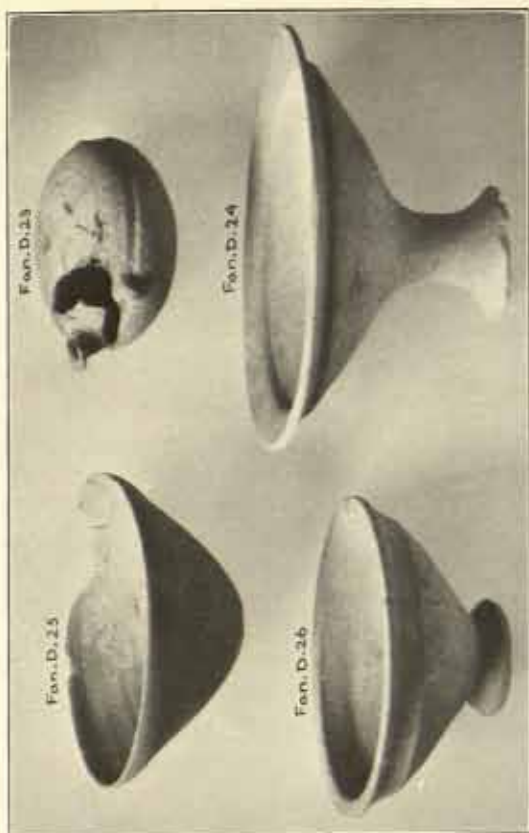
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IN SHAHPUR DISTRICT, PANJAB



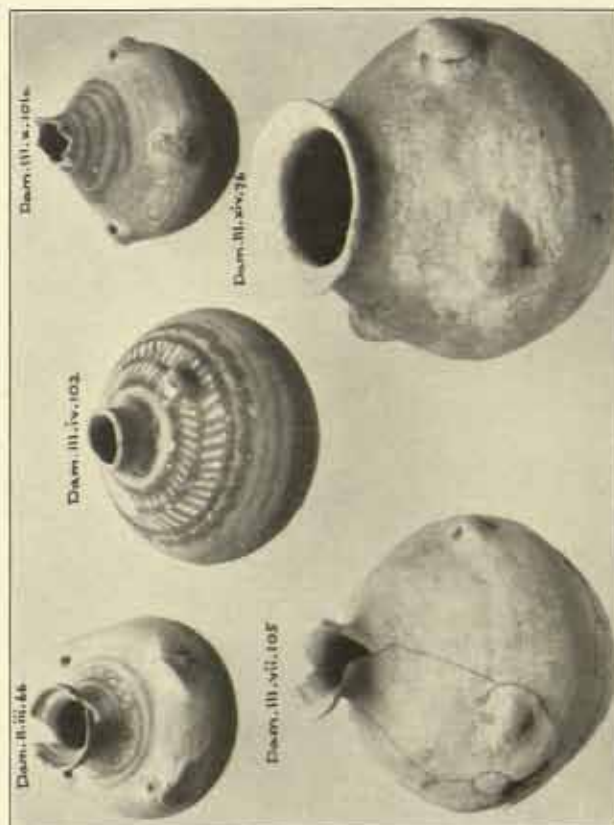
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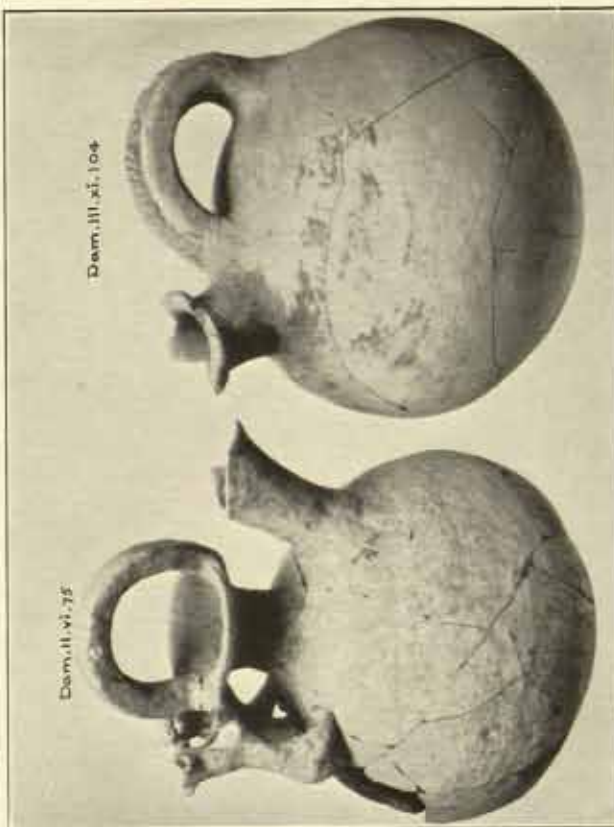
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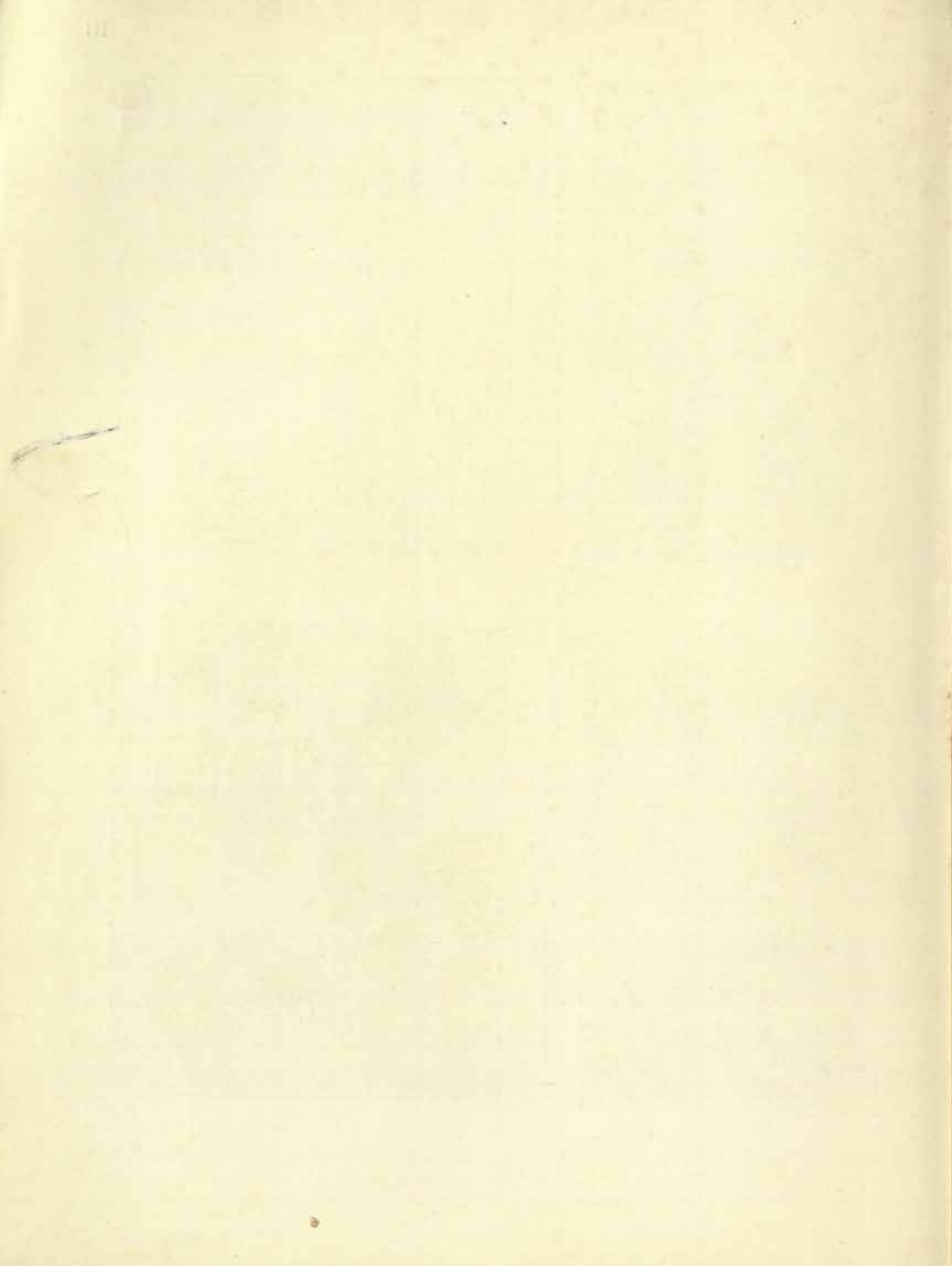
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Scale c. 1



DECORATED POTTERY VESSELS FROM BURIAL CAIRNS, DAMBA-KÖH

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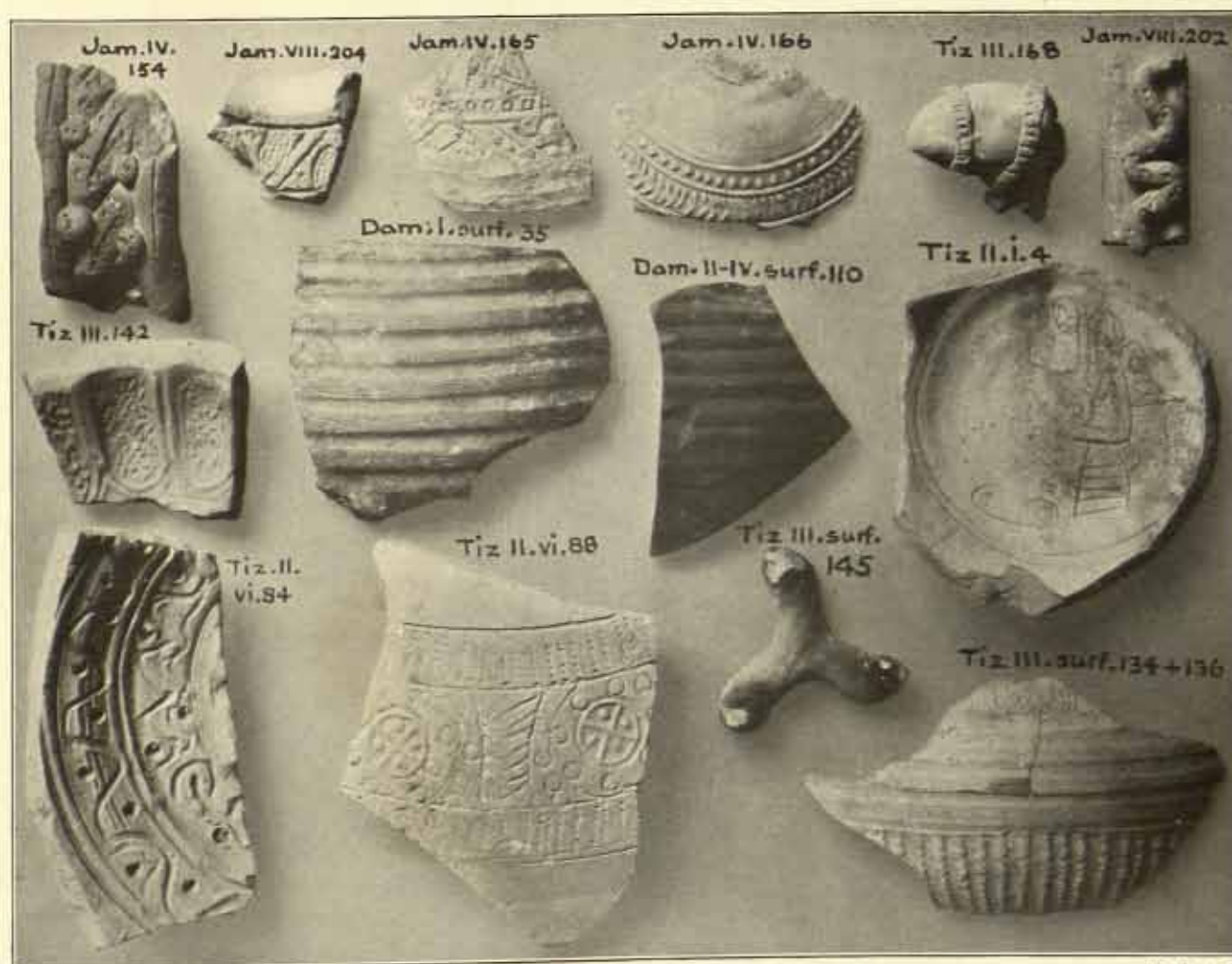
FRAGMENTS OF GLAZED CERAMIC WARES, ISLAMIC PERIOD, FROM QALĀT-I-JAMSHĪD AND TĪZ
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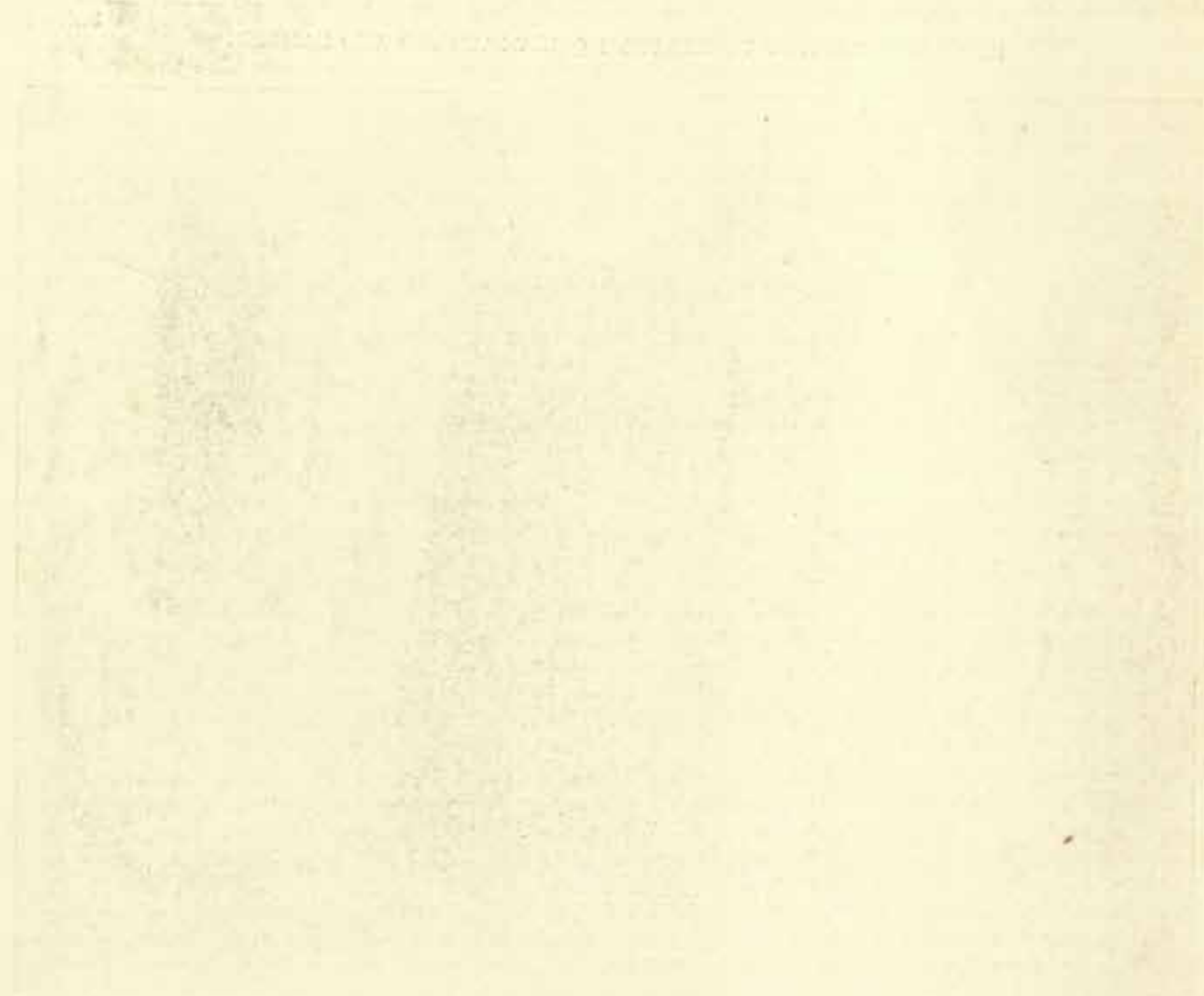
DECORATED POTTERY VESSELS FROM QALĀT-I-JAMSHĪD AND DAMBIĀN

Scale c. $\frac{1}{2}$



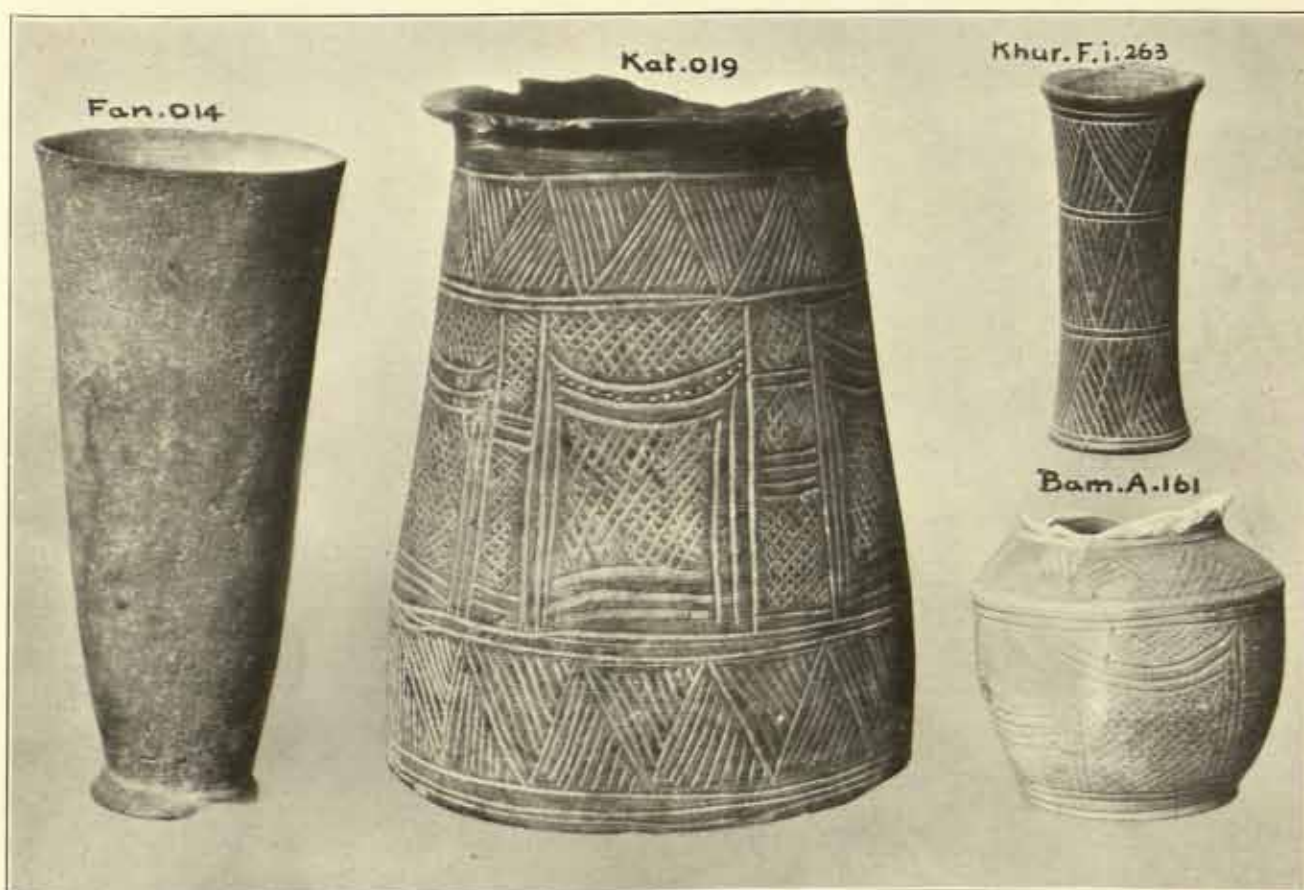
Scale c. $\frac{1}{2}$

FRAGMENTS OF DECORATED POTTERY VESSELS AND MOULDS, ALSO KILN 'SPUR', FROM DAMBA-KÖH, QALĀT-I-JAMSHĪD AND TĪZ



Scale c. $\frac{1}{2}$

POTTERY VESSELS AND ALABASTER CUPS FROM FANŪCH AND KHURĀB

Scale c. $\frac{2}{3}$

INCISED POTTERY, ALSO PLAIN, FROM KATUKĀN, BAMPŪR, FANŪCH, AND KHURĀB

Scale c. $\frac{1}{2}$

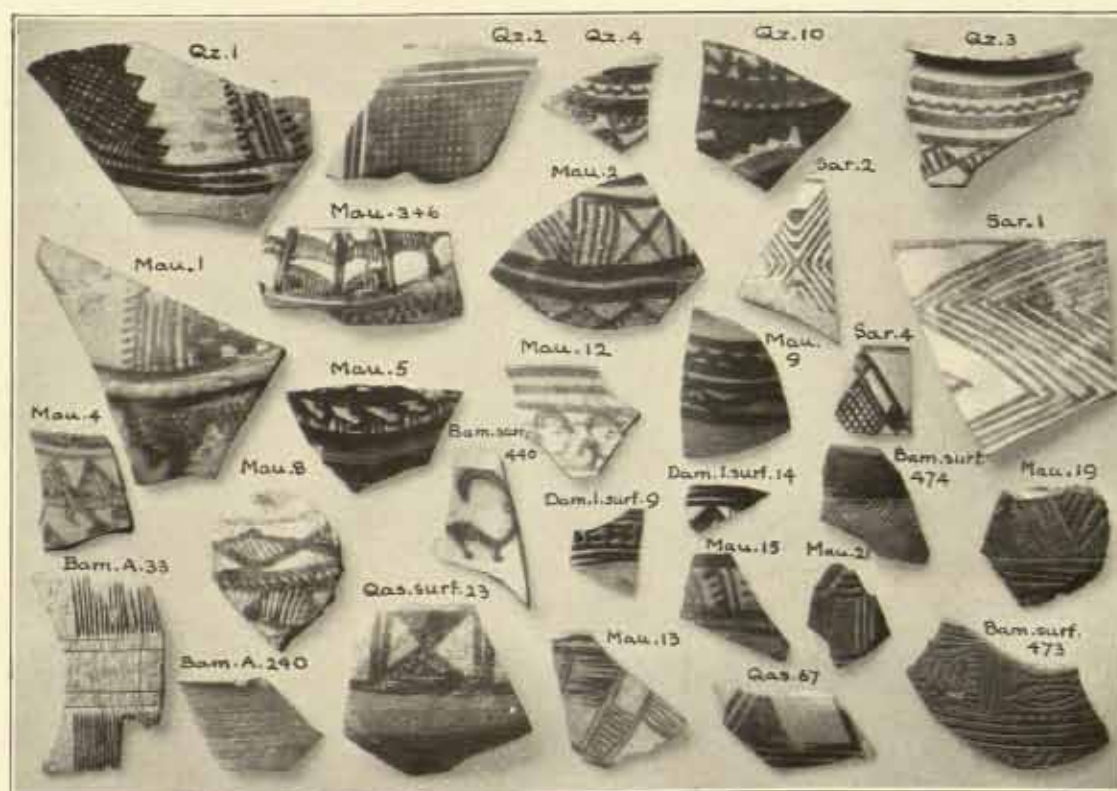
FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY FROM BAMPUR SITE

Scale c. $\frac{1}{4}$

FRAGMENTS OF DECORATED CHALCOLITHIC POTTERY, ALSO INCISED WARE AND ALABASTER,
FROM BAMPUR SITE

Scale c. $\frac{1}{2}$

FRAGMENTS OF PAINTED CHALCOLITHIC WARE, ALSO PERFORATED, FROM BAMPŪR SITE

Scale c. $\frac{1}{2}$

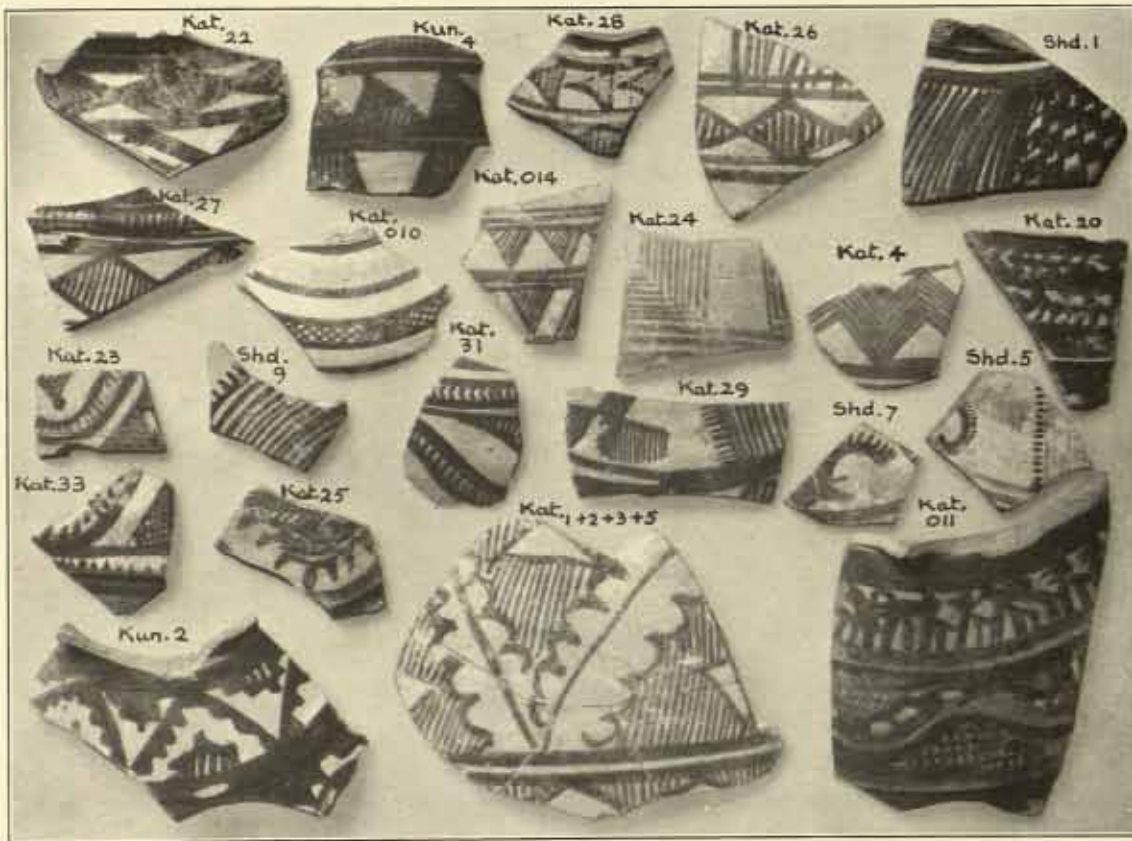
FRAGMENTS OF DECORATED POTTERY, MAINLY CHALCOLITHIC, FROM VARIOUS BALŪCHISTĀN SITES, ALSO WOODEN COMB FROM BAMPŪR SITE



MISCELLANEOUS SMALL OBJECTS OF METAL, STONE, BONE, GLASS, ETC., FROM
DIFFERENT SITES IN BALŪCHISTĀN, KERMĀN AND COAST PROVINCE

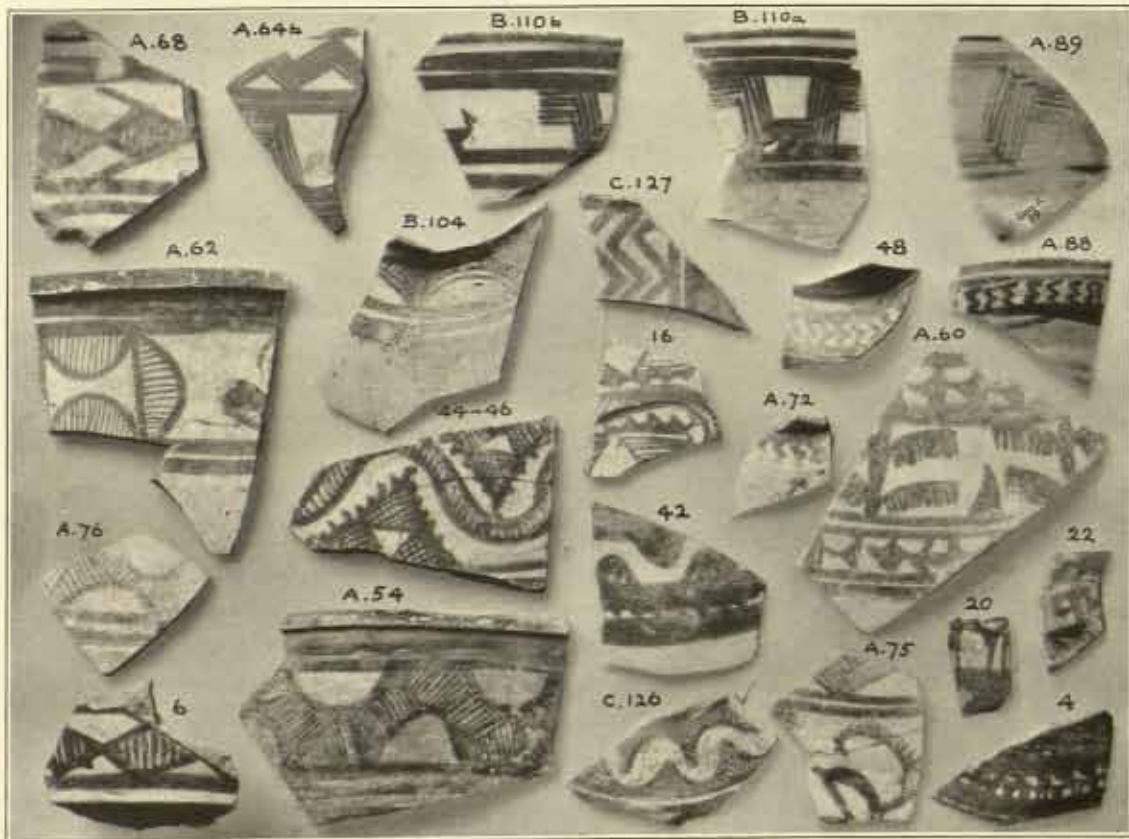
(Chap. III. Secs. i-iv; Chap. IV. Secs. i-iv; Chap. V. Secs. ii-iii; Chap. VII. Sec. iii)

Scale c. $\frac{3}{4}$



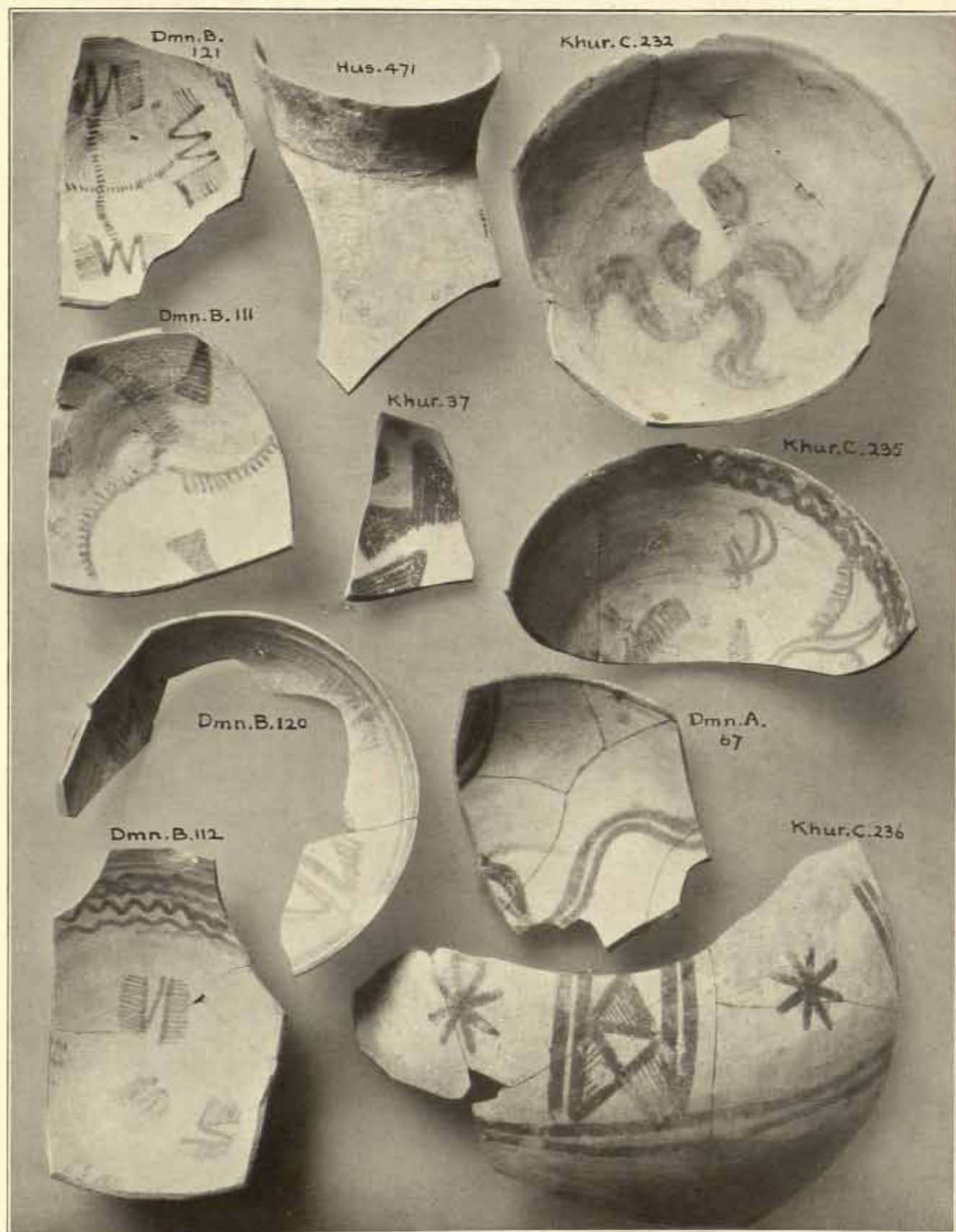
Scale c. $\frac{1}{2}$

FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY FROM VARIOUS SITES OF BAMPŪR DISTRICT



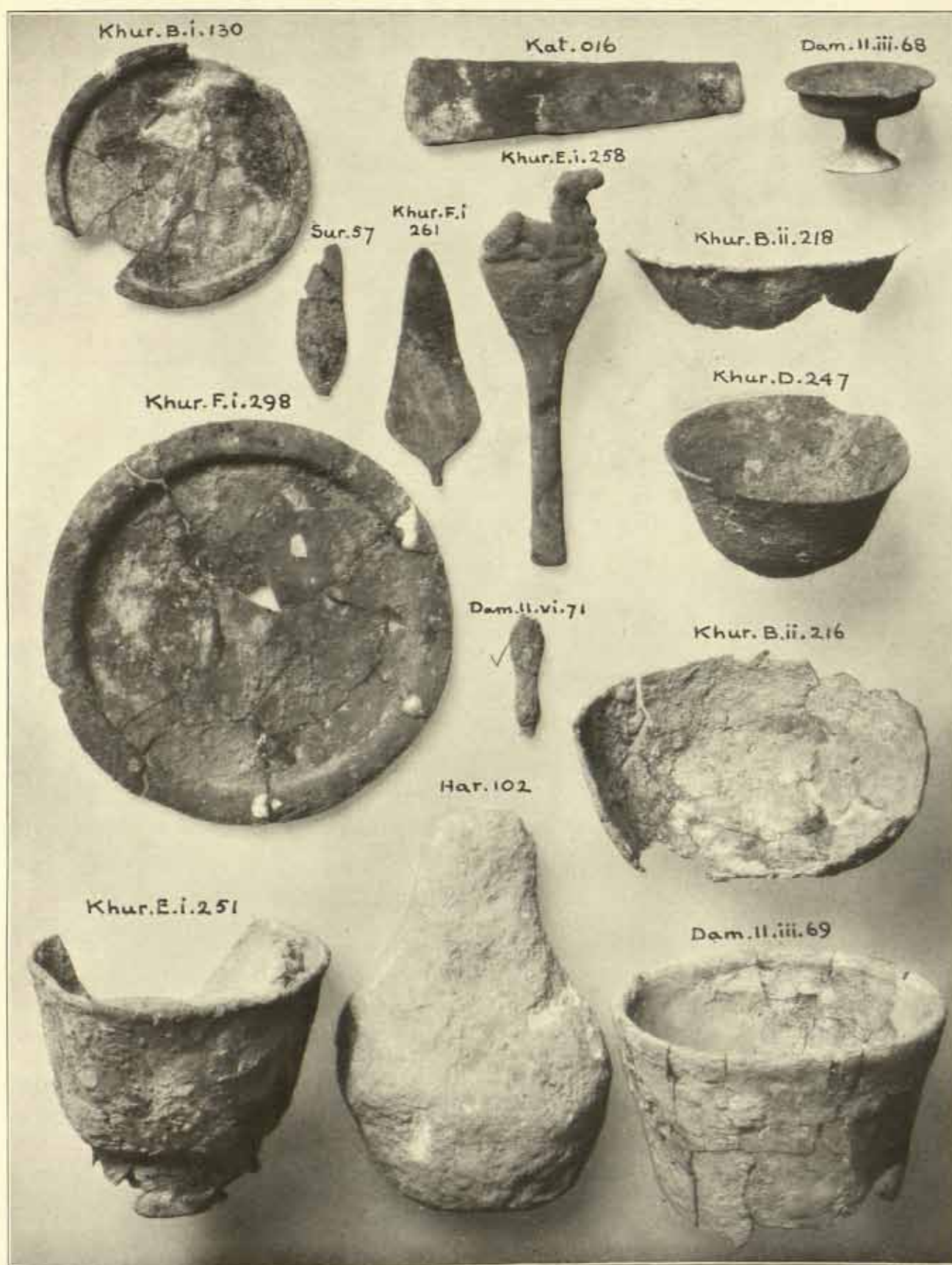
Scale c. $\frac{1}{2}$

FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY FROM DĀMIN

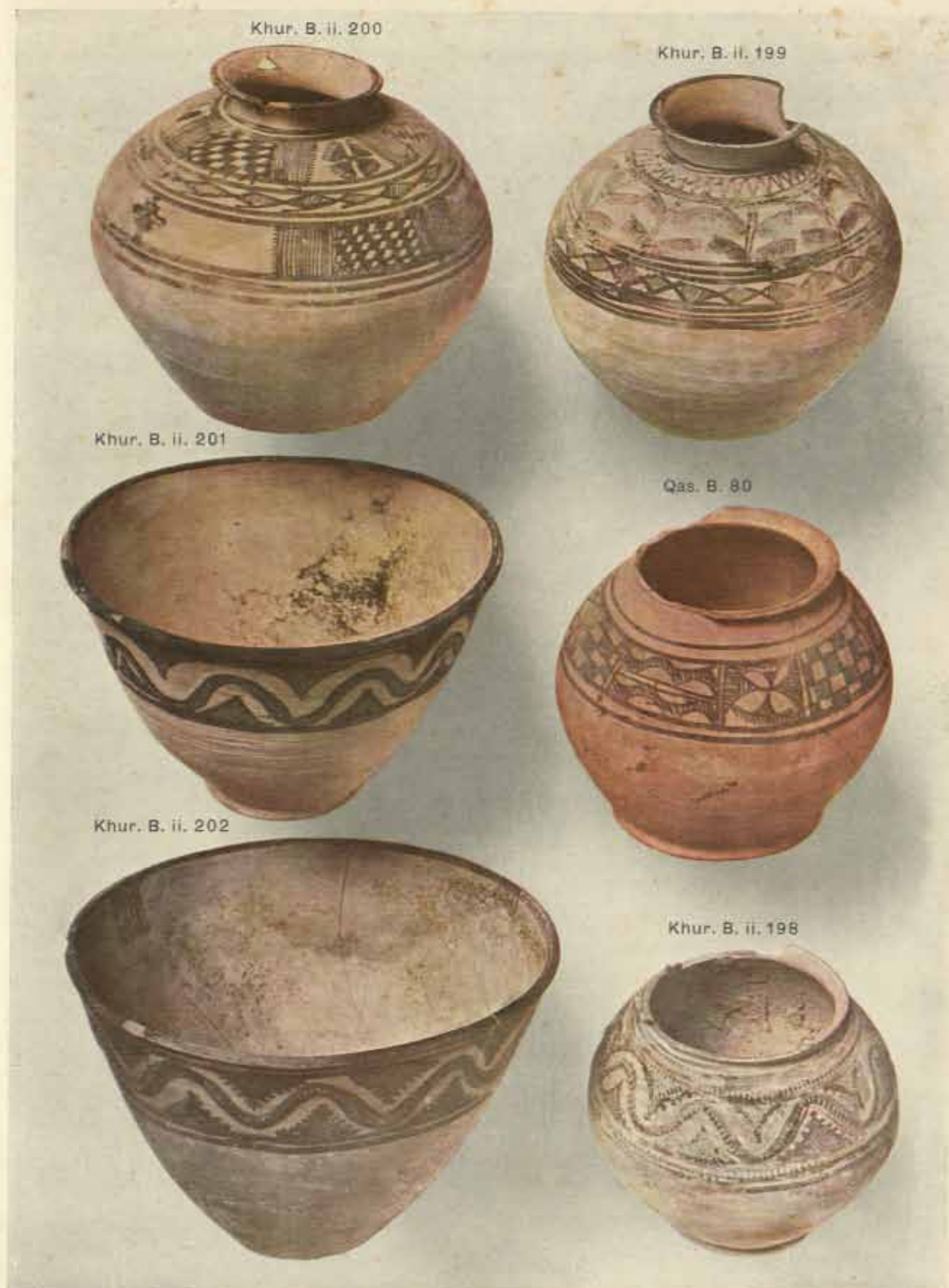


Scale c. 1

FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY FROM DĀMĪN, KHURĀB, AND CHĀH HUSAINĪ



METAL OBJECTS FROM KHURĀB, DAMBA-KŌH, AND OTHER BALŪCHISTĀN SITES, ALSO
STONE HAMMER FROM HARAJ



PAINTED POTTERY VESSELS FROM CHALCOLITHIC BURIAL DEPOSITS, KHURĀB
(Chapter IV. Section iii)

Scale c. $\frac{1}{4}$

Khur. B. ii. 214



Khur. B. ii. 152



Bam. A. 160



Khur. B. ii. 133



Khur. B. ii. 155



Bam. A. 162



Khur. B. i. 119



Khur. B. ii. 157



Khur. B. ii. 203



Bam. A. 61

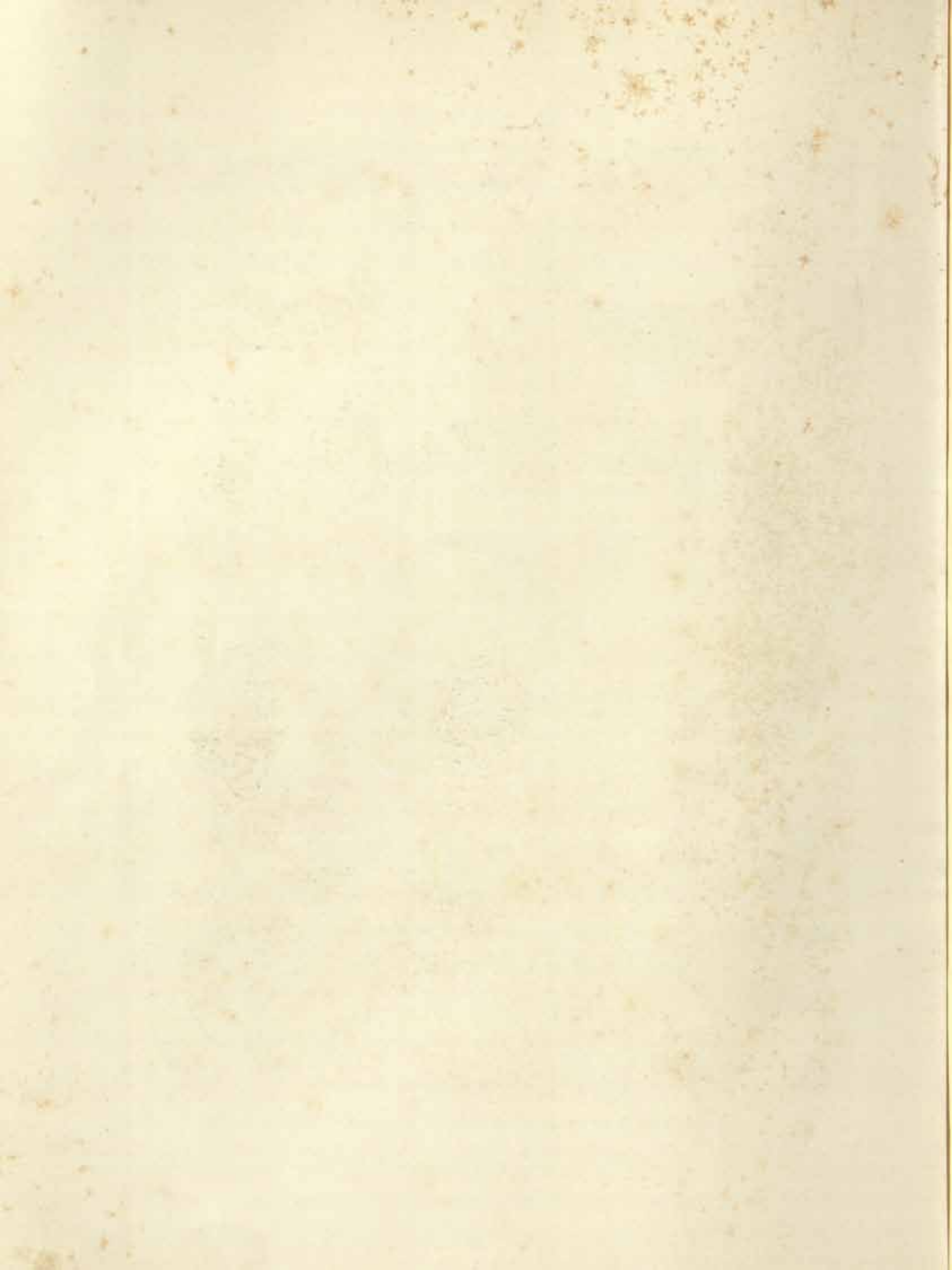


Khur. B. ii. 204



PAINTED POTTERY FROM CHALCOLITHIC BURIAL DEPOSITS, KHURĀB
AND FROM BAMPŪR SITE
(Chapter IV. Sections i, iii)

Scale c. $\frac{1}{3}$



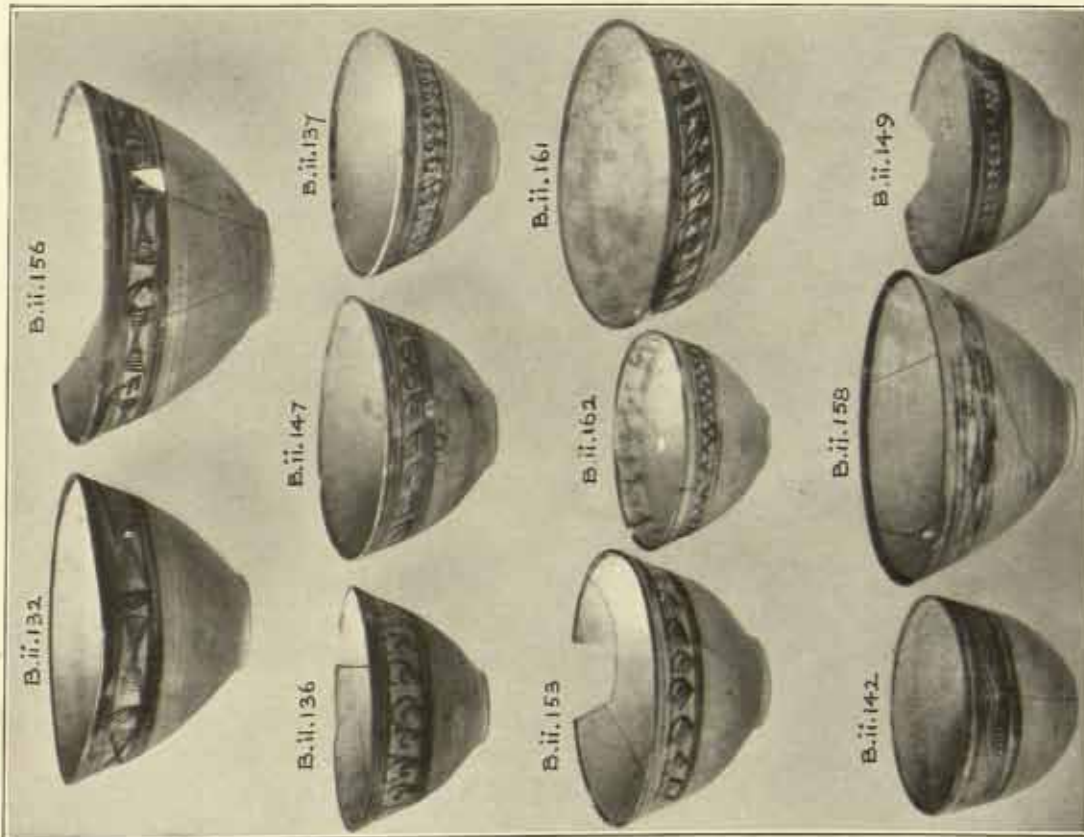


CHALCOLITHIC POTTERY FROM BURIAL DEPOSITS, KHURĀB

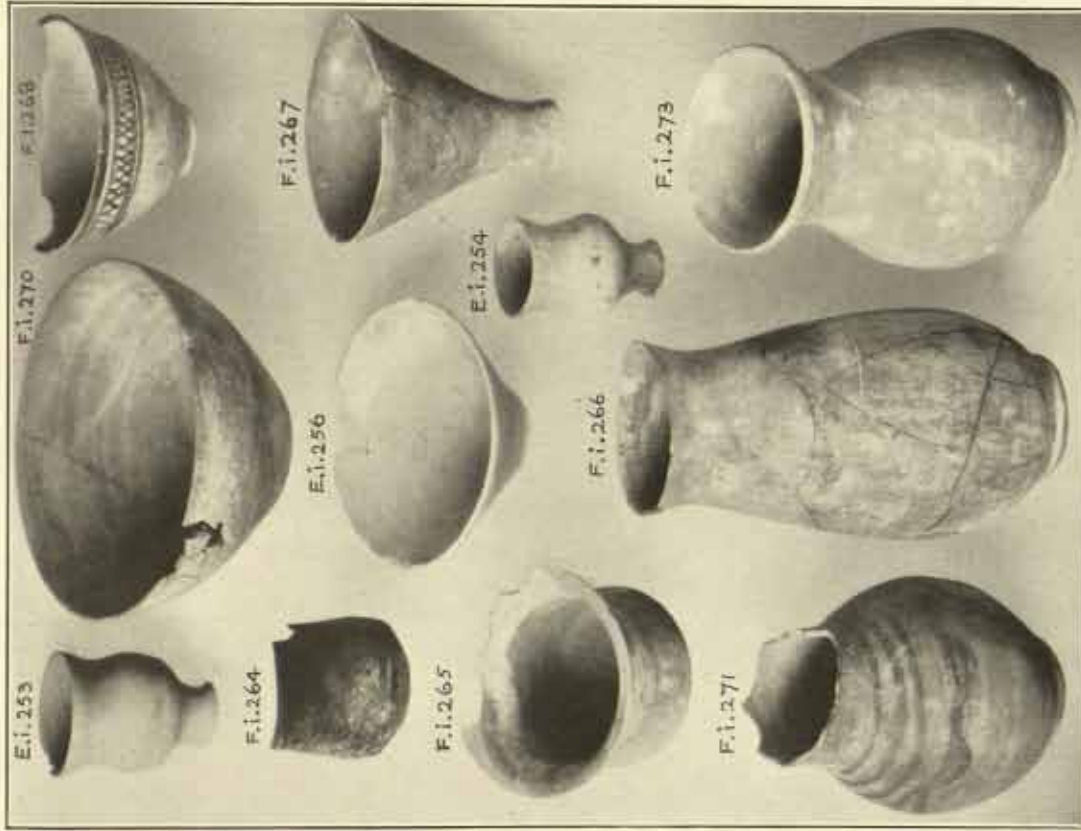
Scale c. $\frac{1}{16}$ 

CHALCOLITHIC POTTERY FROM KHURĀB, DĀMĪN, AND CHĀH SARDŪ

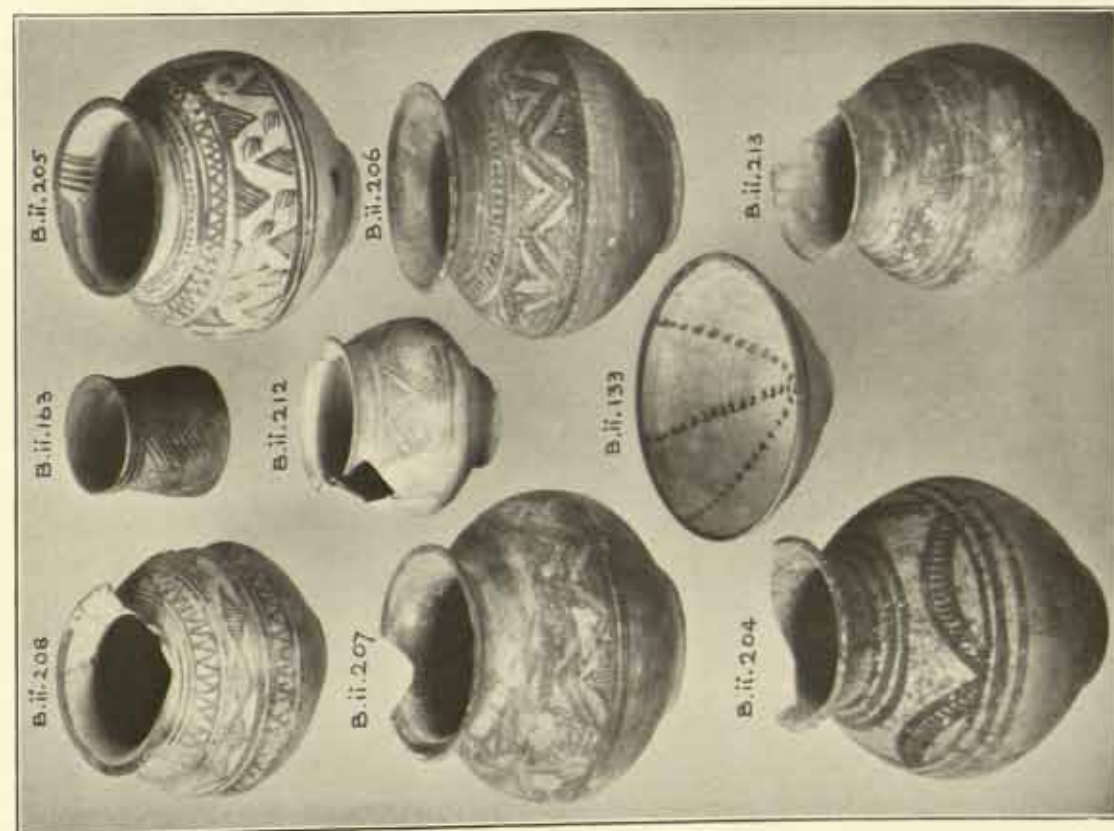
Scale c. $\frac{1}{16}$



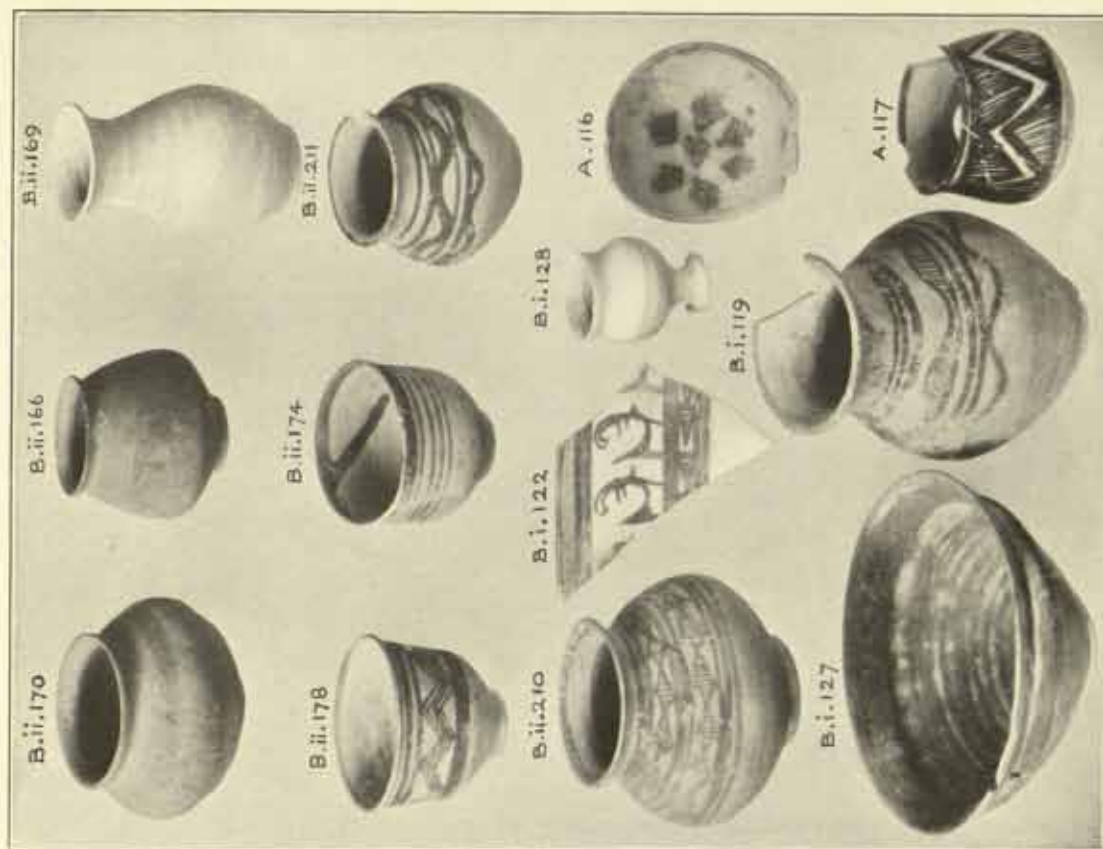
PAINTED CHALCOLITHIC POTTERY FROM BURIAL DEPOSITS, KHURĀB
Scale c. $\frac{1}{2}$



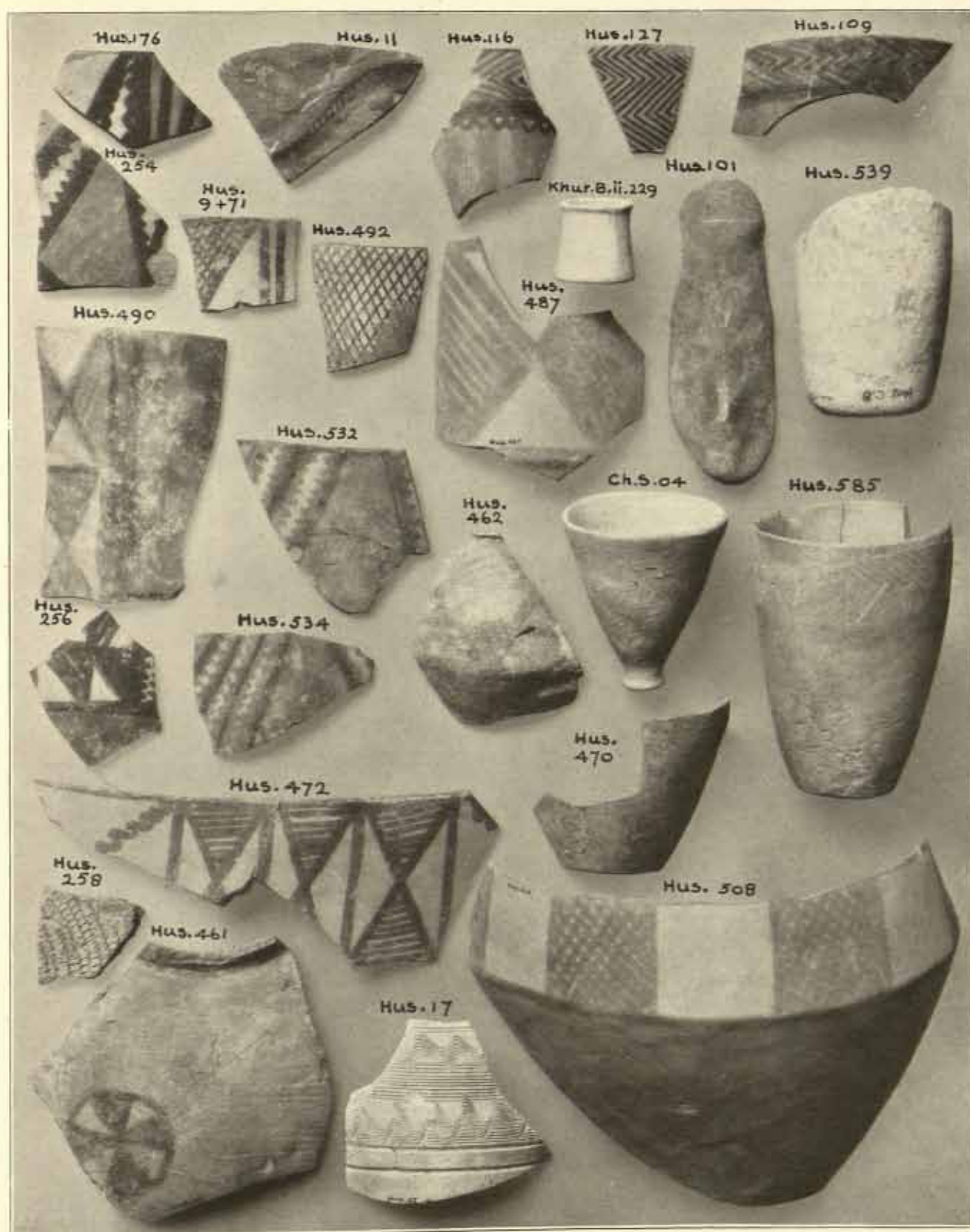
CHALCOLITHIC POTTERY FROM BURIAL DEPOSITS, KHURĀB
Scale c. $\frac{1}{2}$



PAINTED CHALCOLITHIC POTTERY FROM BURIAL DEPOSITS, KHURĀB

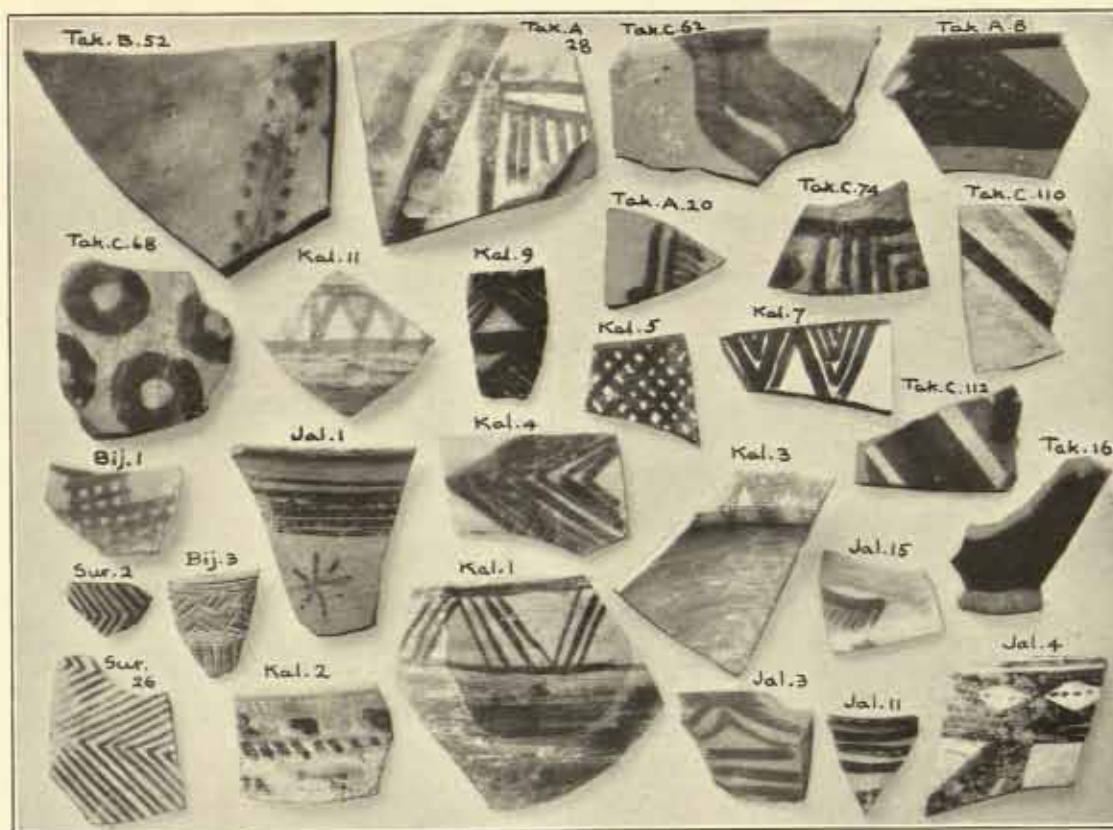


CHALCOLITHIC POTTERY FROM BURIAL DEPOSITS, KHURĀB



Scale 1:1

FRAGMENTS OF DECORATED CHALCOLITHIC POTTERY FROM CHĀH ḤUSAINĪ, ALSO STONE OBJECTS FROM KHURĀB AND CHĀH ḤUSAINĪ

Scale c. $\frac{1}{2}$

FRAGMENTS OF DECORATED POTTERY FROM VARIOUS SITES, RÜDBÄR

Scale c. $\frac{1}{4}$

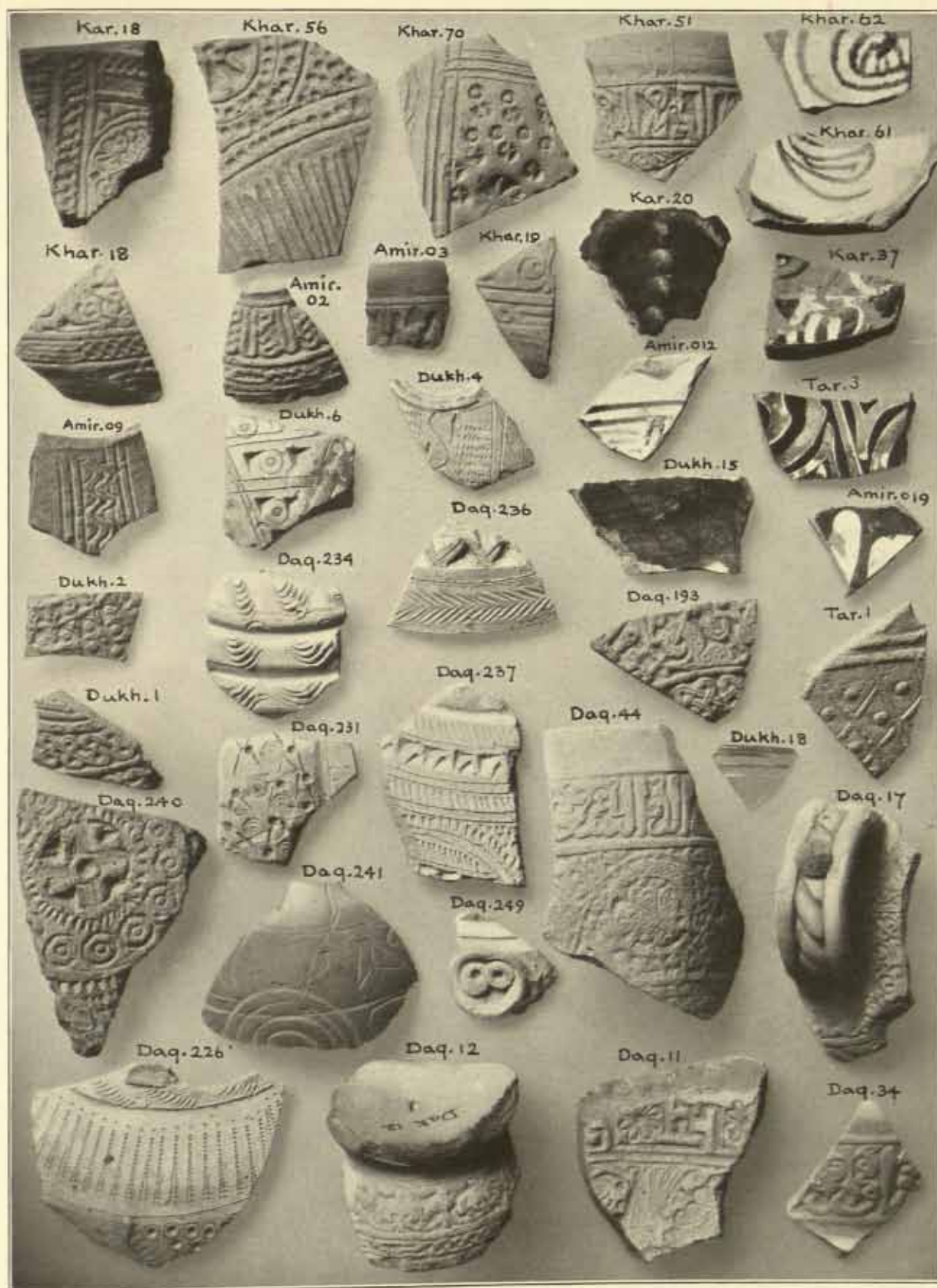
FRAGMENTS OF DECORATED AND PLAIN POTTERY FROM VARIOUS SITES, RÜDBÄR



FRAGMENTS OF GLAZED POTTERY AND GLASS, ISLAMIC PERIOD,
 SHAHR-I-DĀQIANŪS, JĪRUFT
 (Chapter V. Section iii)

Scale c. $\frac{1}{2}$



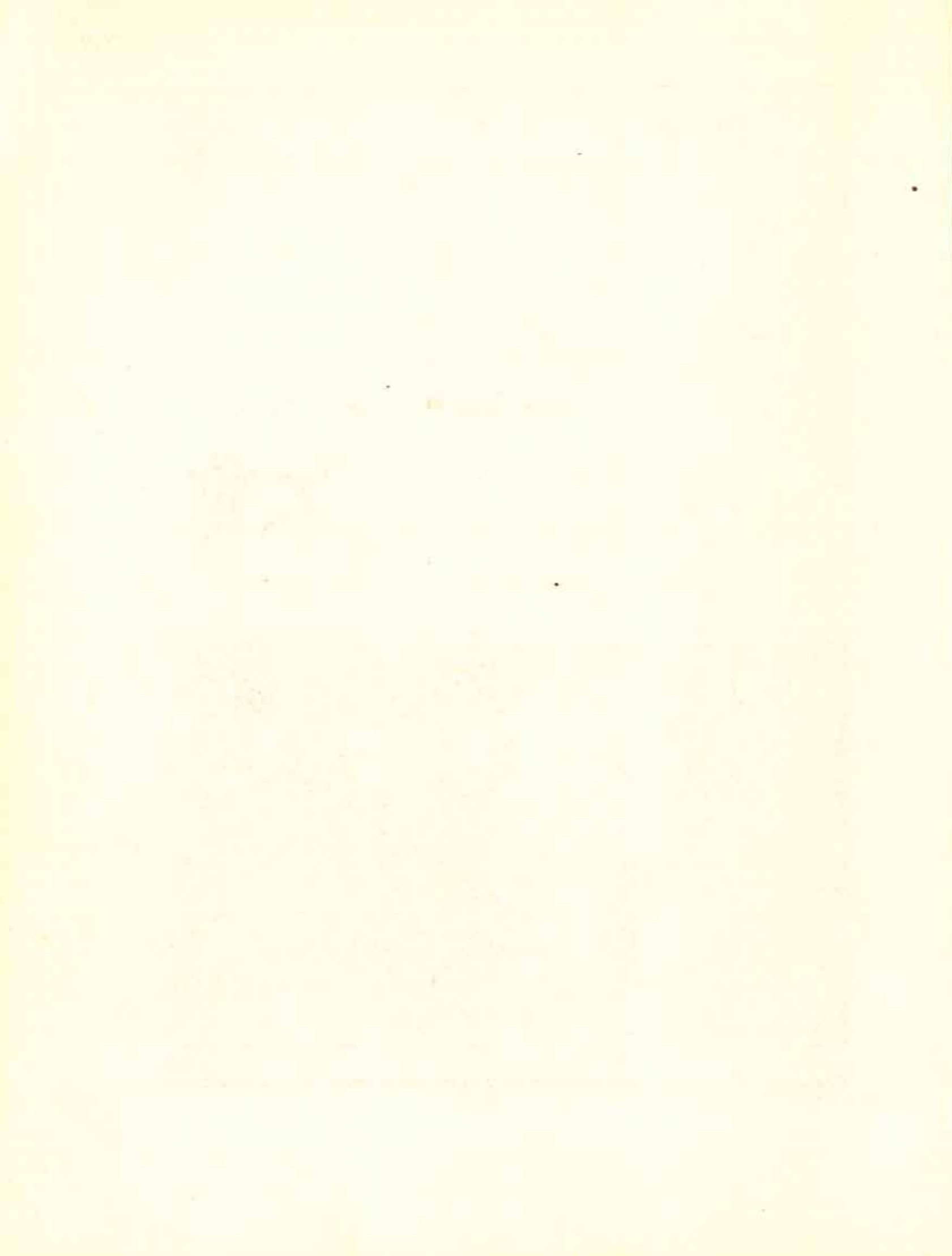
Scale c. $\frac{1}{2}$

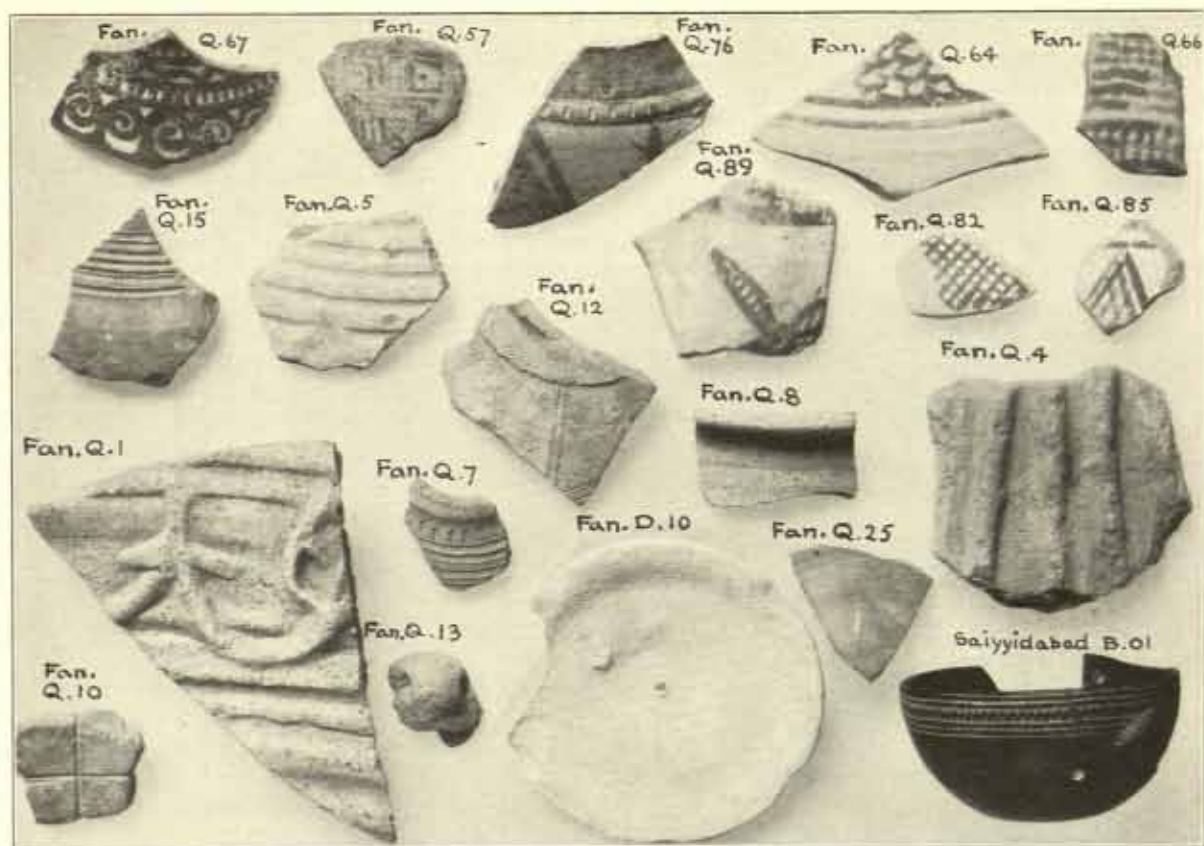
FRAGMENTS OF DECORATED POTTERY, POTTERY MOULDS, AND GLASS FROM SHAHR-I-DĀQIĀNŪS AND VARIOUS SITES OF RŪDBĀR, JĪRUFT, AND KERMĀN



Scale c. 1/4

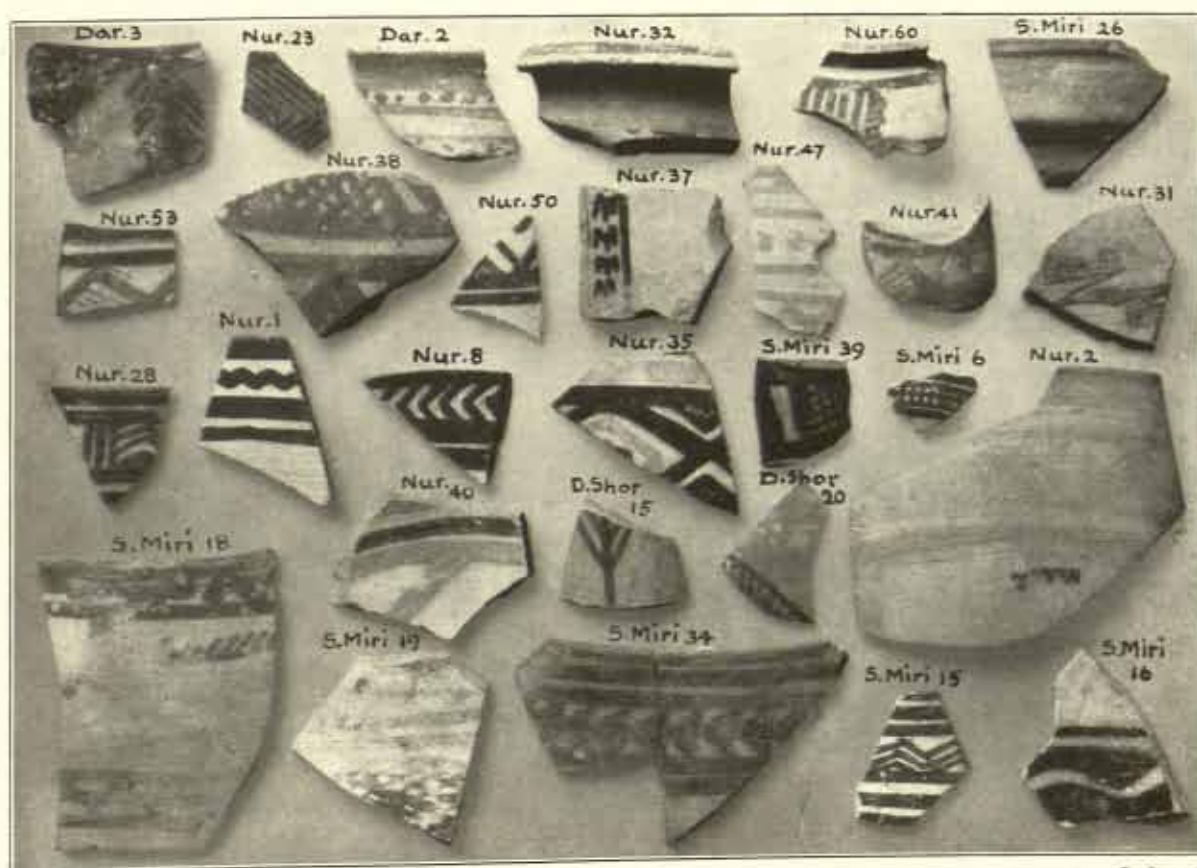
FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY AND ALABASTER VESSELS, ALSO WORKED STONES
FROM TAL-I-IBLIS, KERMĀN





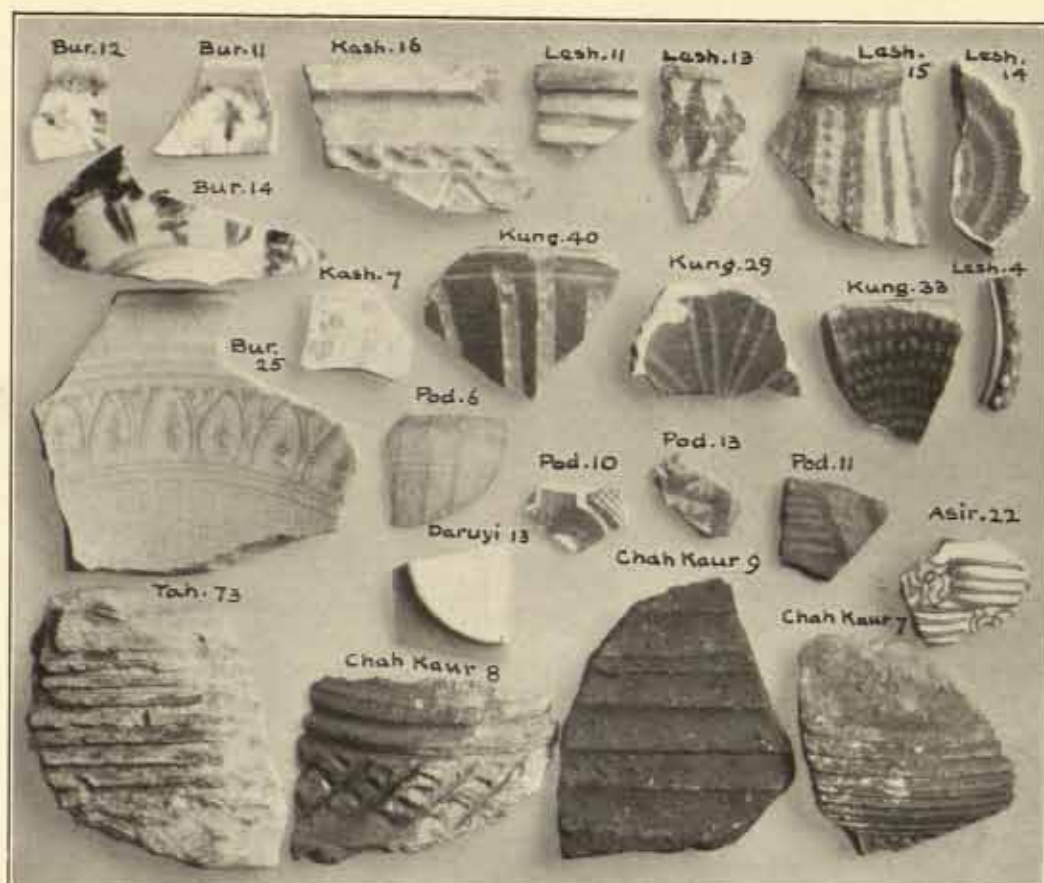
Scale c. 1/2

FRAGMENTS OF DECORATED POTTERY FROM FANÛCH SITES; ALSO STONE CUP, BAMPÛR DISTRICT



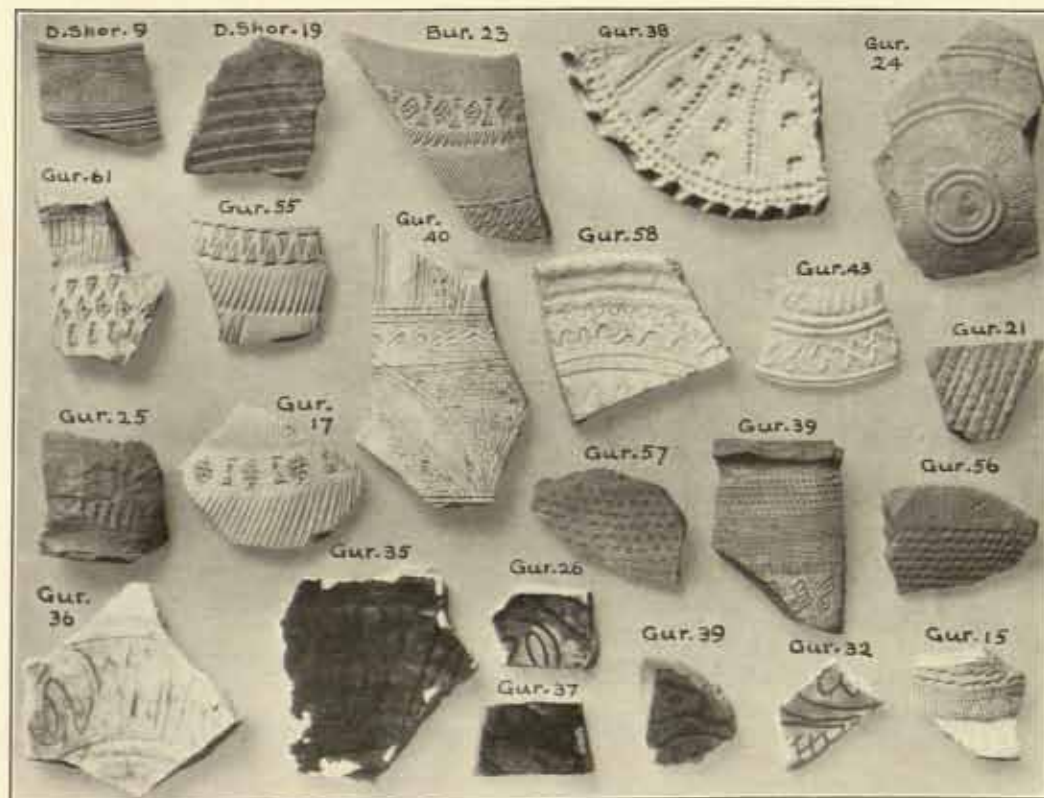
Scale c. 1/2

FRAGMENTS OF PAINTED POTTERY FROM VARIOUS SITES OF RÛDBÂR AND RÛDÂN



Scale c. 1/2

FRAGMENTS OF DECORATED POTTERY AND GLASS BANGLE FROM OLD HORMUZ
AND OTHER GULF COAST SITES



Scale c. 1/2

FRAGMENTS OF DECORATED POTTERY FROM OLD HORMUZ AND OTHER
GULF COAST SITES



FRAGMENTS OF PAINTED POTTERY FROM DAMBA-KŌH AND BASŌT, MAKRĀN
(Chapter III. Section i)

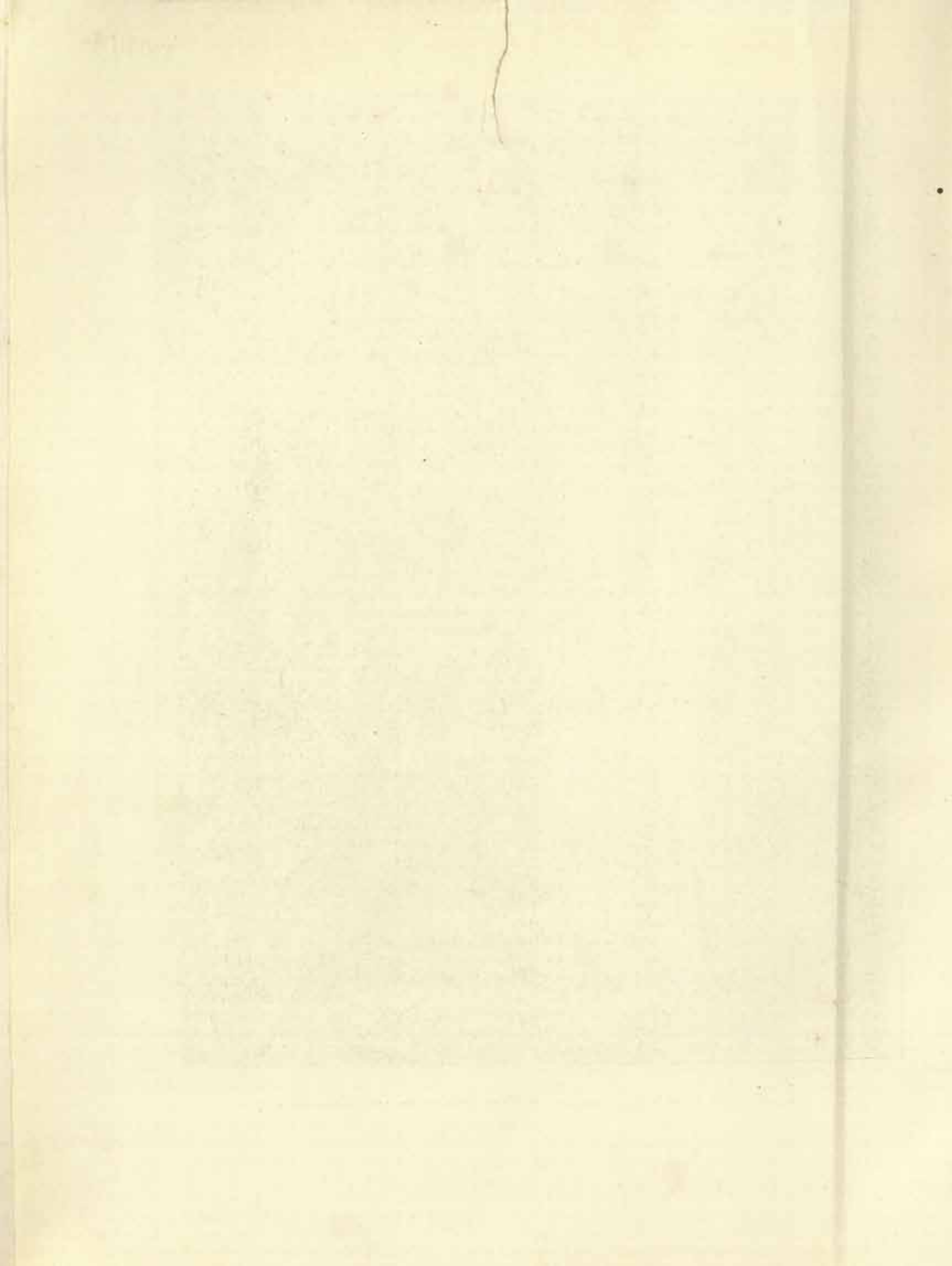


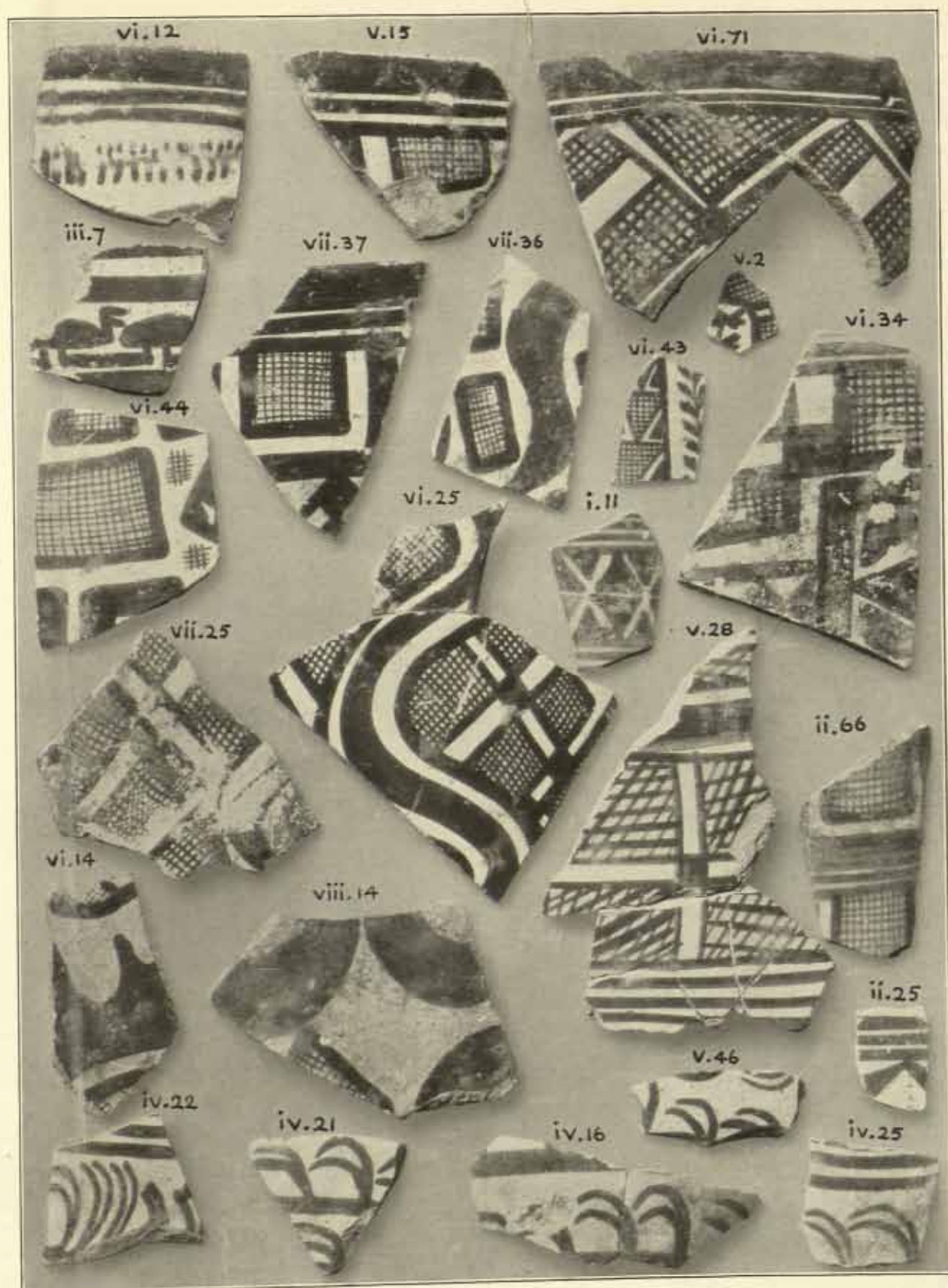
FRAGMENTS OF GLAZED CERAMIC WARE, MAINLY FROM SĪRĀF (TĀHIRĪ)
(Chapter VII. Section iii)

Scale c. $\frac{1}{3}$

Scale $\frac{1}{4}$

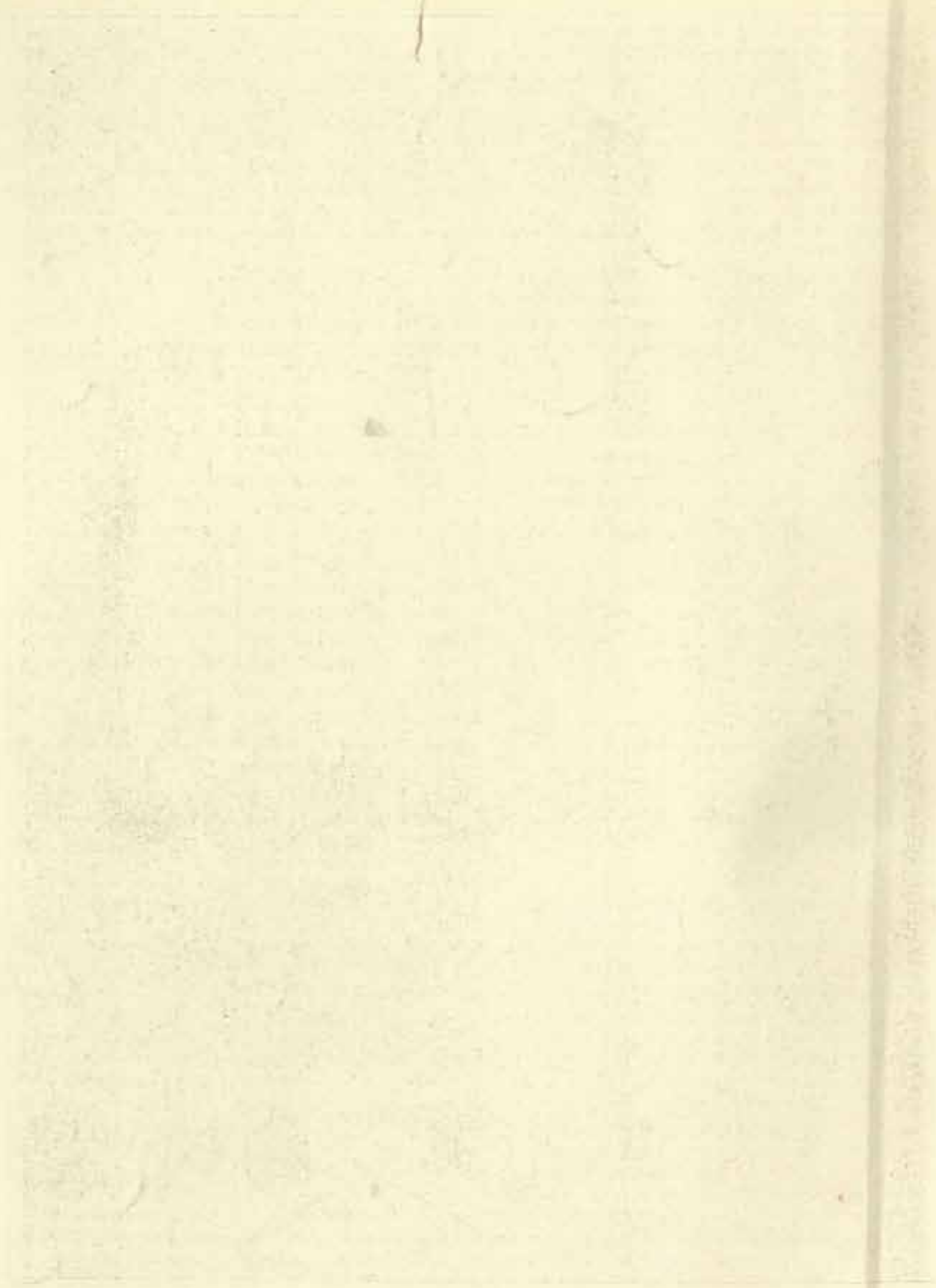
FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY FROM TAL-I-PIR, HARAJ



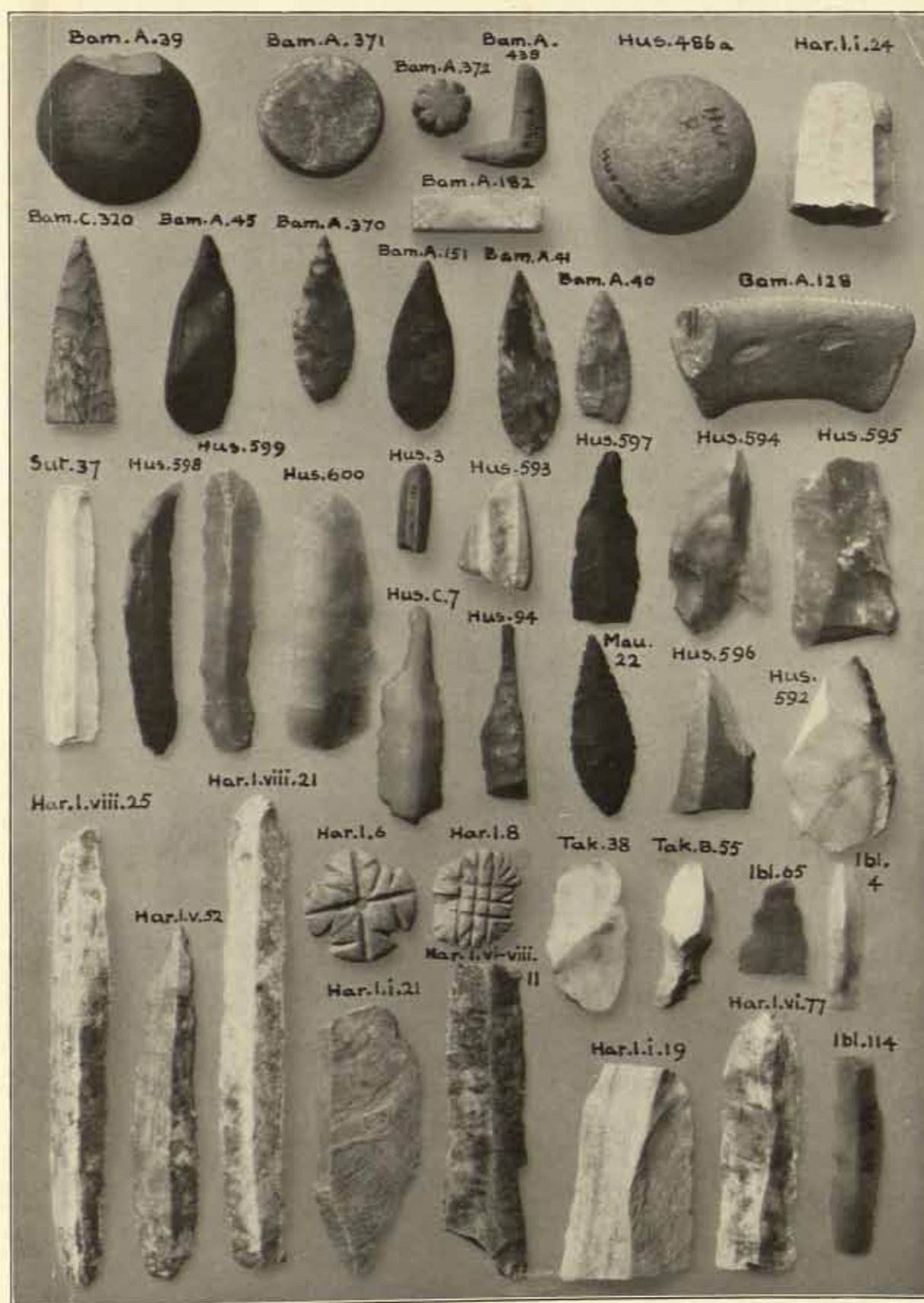


Scale c. 1

FRAGMENTS OF PAINTED CHALCOLITHIC POTTERY FROM TAL-I-PİR, HARAJ



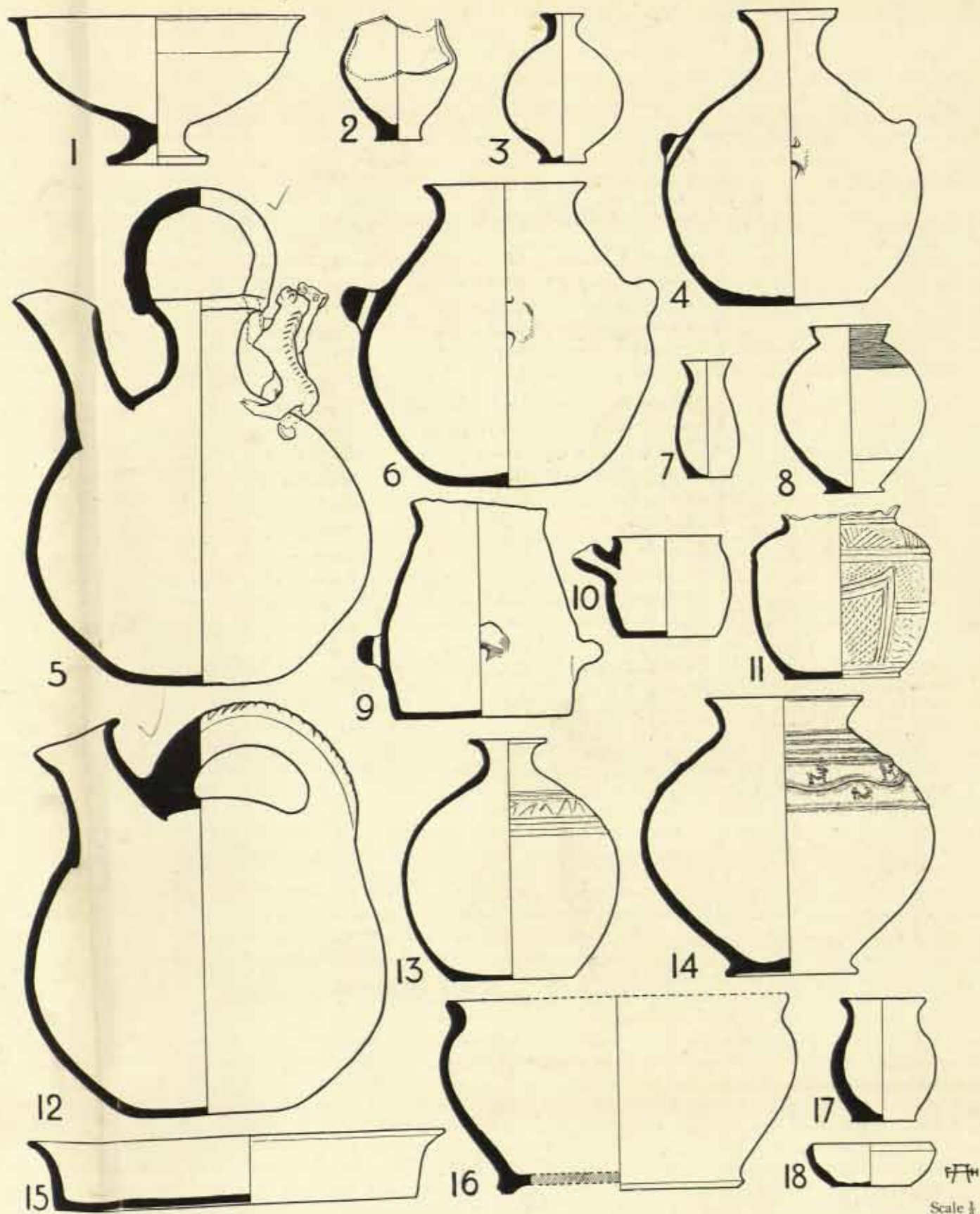
THE UNIVERSITY OF CHICAGO PRESS

Scale c. $\frac{1}{2}$

WORKED STONES AND CLAY OBJECT FROM VARIOUS SITES OF BAMPŪR, KERMĀN, RŪDBĀR DISTRICTS; ALSO FROM TAL-I-PĪR, HARAJ

SCHEDULE OF PLATE XXXI

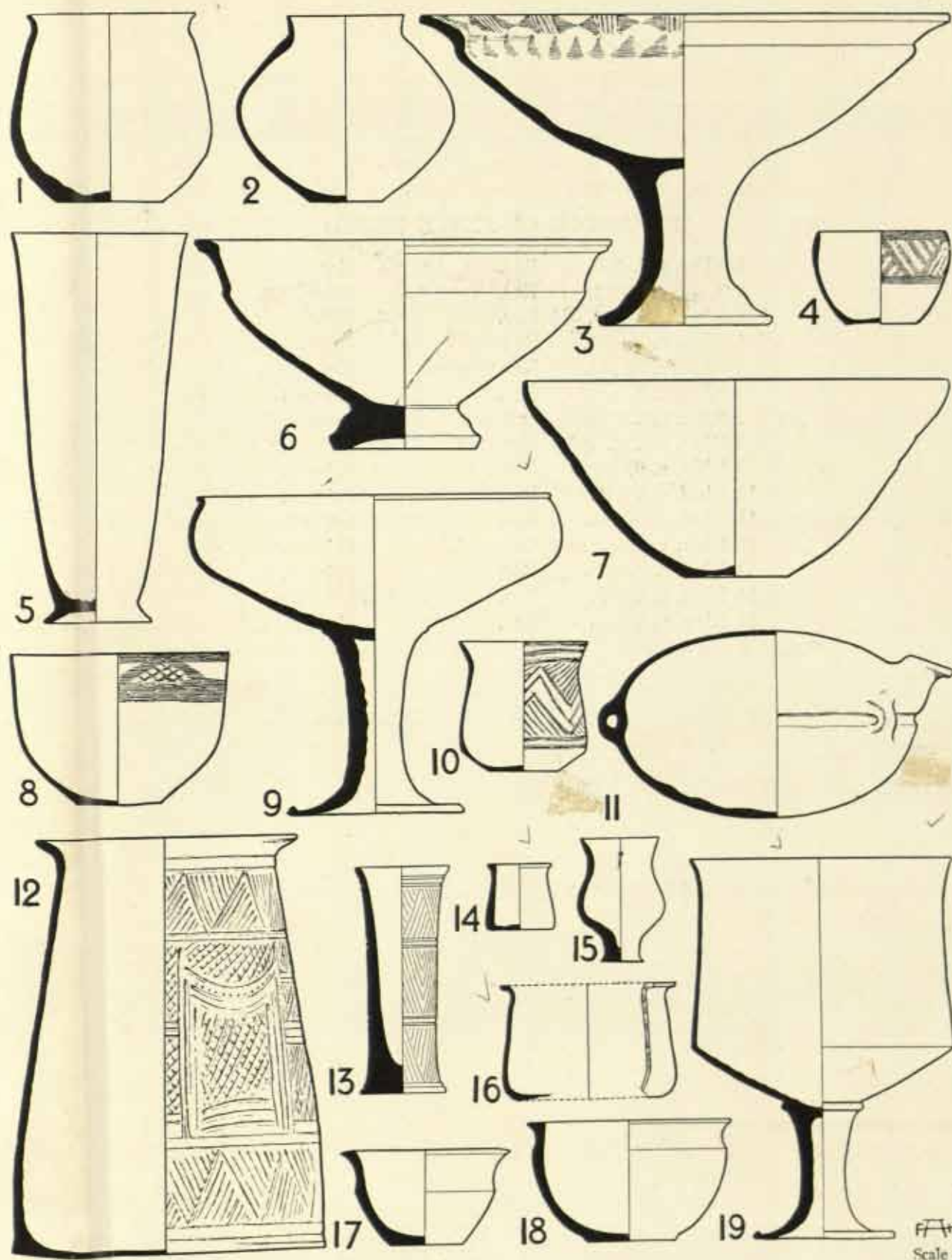
1	Suntsar 1.	Dark red.	Unpainted.
2	Sut. 1. "	Red.	Painted.
3	Dam. II. iii. 65.	Red.	Unpainted.
4	Dam. III. vii. 105.	Red.	Unpainted.
5	Dam. II. vi. 75.	Red.	Unpainted.
6	Dam. III. xiv. 76.	Red.	Unpainted.
7	Bam. A. 53.	Very pale red.	Unpainted.
8	Bam. A. 160.	Pale red.	Painted.
9	Dam. III. iv. 103.	Red.	Unpainted.
10	Dam. III. x. 77.	Red.	Unpainted.
11	Bam. A. 161.	Grey-buff.	Incised.
12	Dam. III. xi. 104.	Red.	Unpainted.
13	Dam. III. x. 101b.	Red.	Incised.
14	Bam. A. 162.	Red.	Painted.
15	Bam. A. 181.	Rich red.	Unpainted.
16	Bam. A. 156.	Grey.	Burnished.
17	Bam. A. 220.	Pale red.	Unpainted.
18	Bam. A. 239.	Pale red.	Unpainted.



SHAPES OF POTTERY VESSELS FROM SUNTSAR, DAMBA-KÖH, AND BAMPÜR SITES

SCHEDULE OF PLATE XXXII

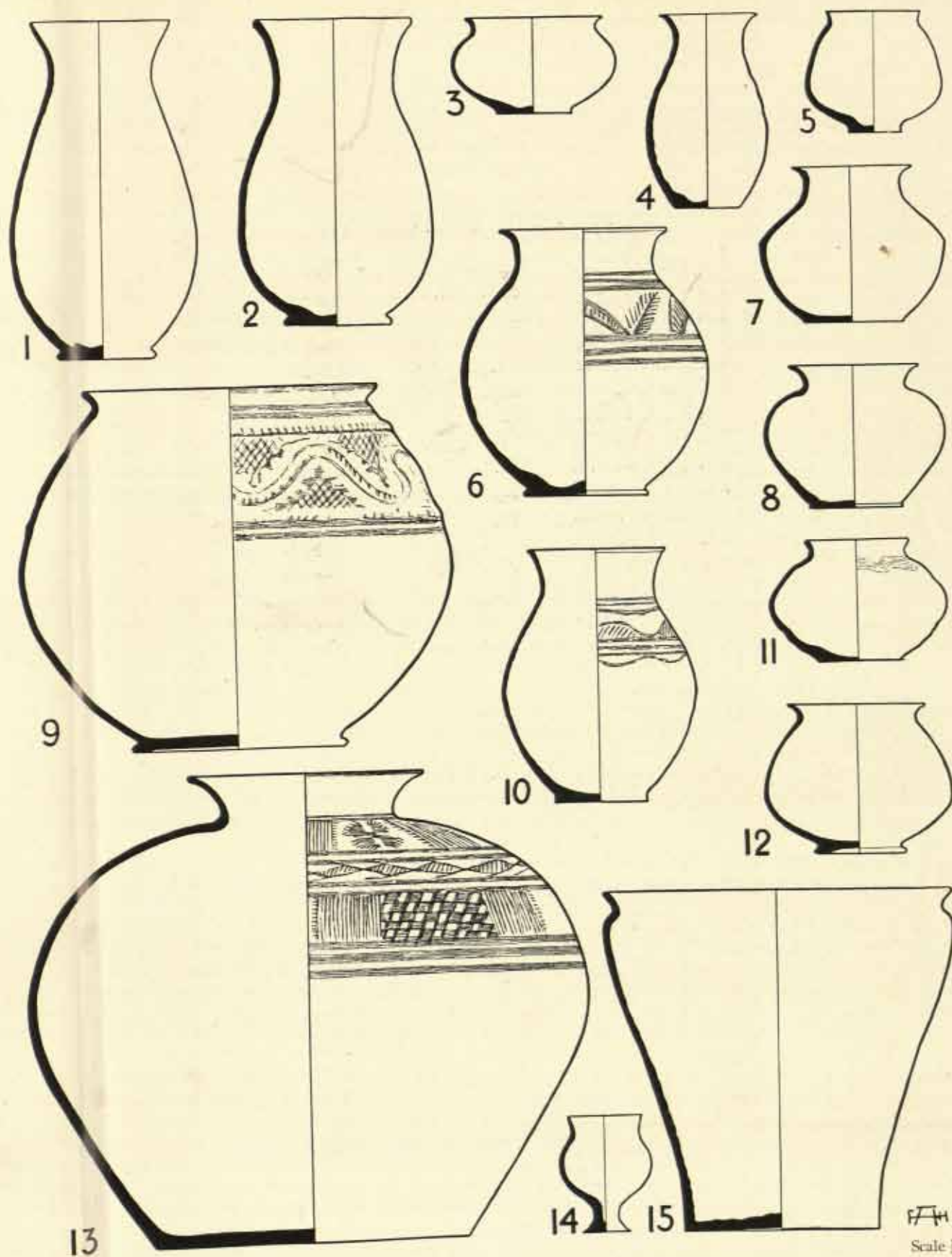
1 Bam. A. 159.	Red.	Unpainted.
2 Kat. 017.	Dark grey.	Unpainted.
3 Fan. D. 24.	Red.	Painted.
4 Fan. 7.	Grey.	Painted.
5 Fan. 044.	Dark red-brown.	Unpainted.
6 Fan. D. 26.	Red.	Unpainted.
7 Fan. D. 25.	Dull red.	Unpainted.
8 Kat. 018.	Grey.	Painted.
9 Khur. L. i. 279.	Red.	Unpainted.
10 Khur. L. ii. 293.	Red.	Painted.
11 Fan. D. 23.	Red.	Unpainted.
12 Kat. 019.	Grey.	Incised.
13 Khur. F. i. 263.	Potstone.	Incised.
14 Khur. B. ii. 229.	Alabaster.	Plain.
15 Khur. E. i. 254.	Red.	Unpainted.
16 Khur. surf. 59.	Grey.	Unpainted.
17 Khur. B. i. 129.	Alabaster.	Plain.
18 Khur. F. i. 262.	Alabaster.	Plain.
19 Khur. L. i. 278.	Red.	Unpainted.



SHAPES OF POTTERY AND STONE VESSELS FROM BAMPŪR, KATUKĀN,
FANŪCH, AND KHURĀB

SCHEDULE OF PLATE XXXIII

1 Khur. F. i. 266.	Red.	Unpainted.
2 Khur. F. i. 273.	Red.	Unpainted.
3 Khur. L. i. 287.	Red.	Unpainted.
4 Khur. B. ii. 169.	Red.	Unpainted.
5 Khur. B. ii. 166.	Brown-grey.	Unpainted.
6 Khur. D. 250.	Red.	Painted.
7 Khur. L. i. 280.	Dull red.	Painted.
8 Khur. D. 244.	Grey-red.	Painted.
9 Khur. B. ii. 198.	Grey.	Painted.
10 Khur. B. i. 119.	Red.	Painted.
11 Khur. B. ii. 170.	Red.	Incised combing.
12 Khur. B. ii. 212.	Grey-red.	Painted.
13 Khur. B. ii. 200.	Red.	Painted.
14 Khur. B. i. 128.	Red.	Unpainted.
15 Khur. L. i. 276.	Red.	Unpainted.

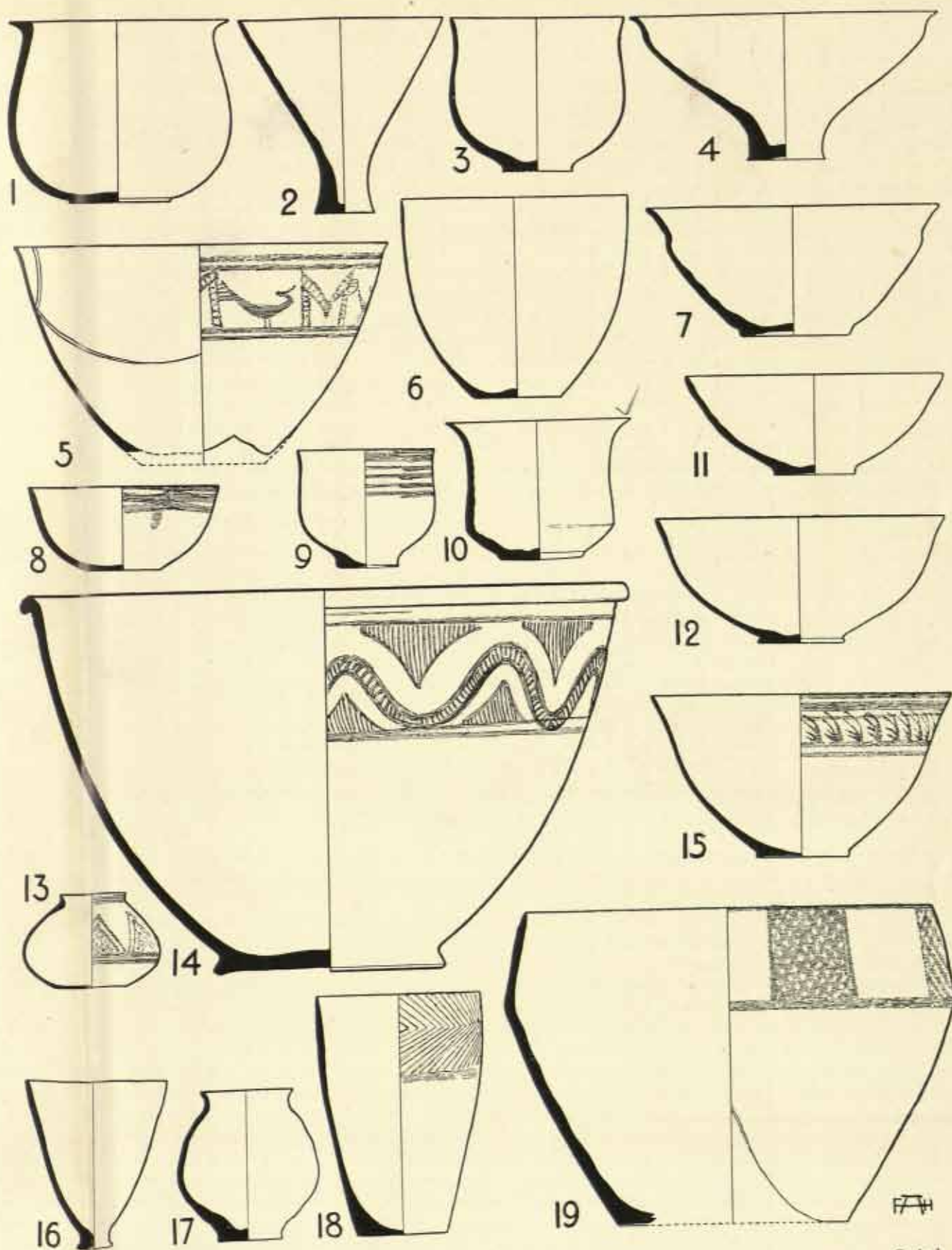


SHAPES OF POTTERY VESSELS FROM KHURĀB


 Scale 1

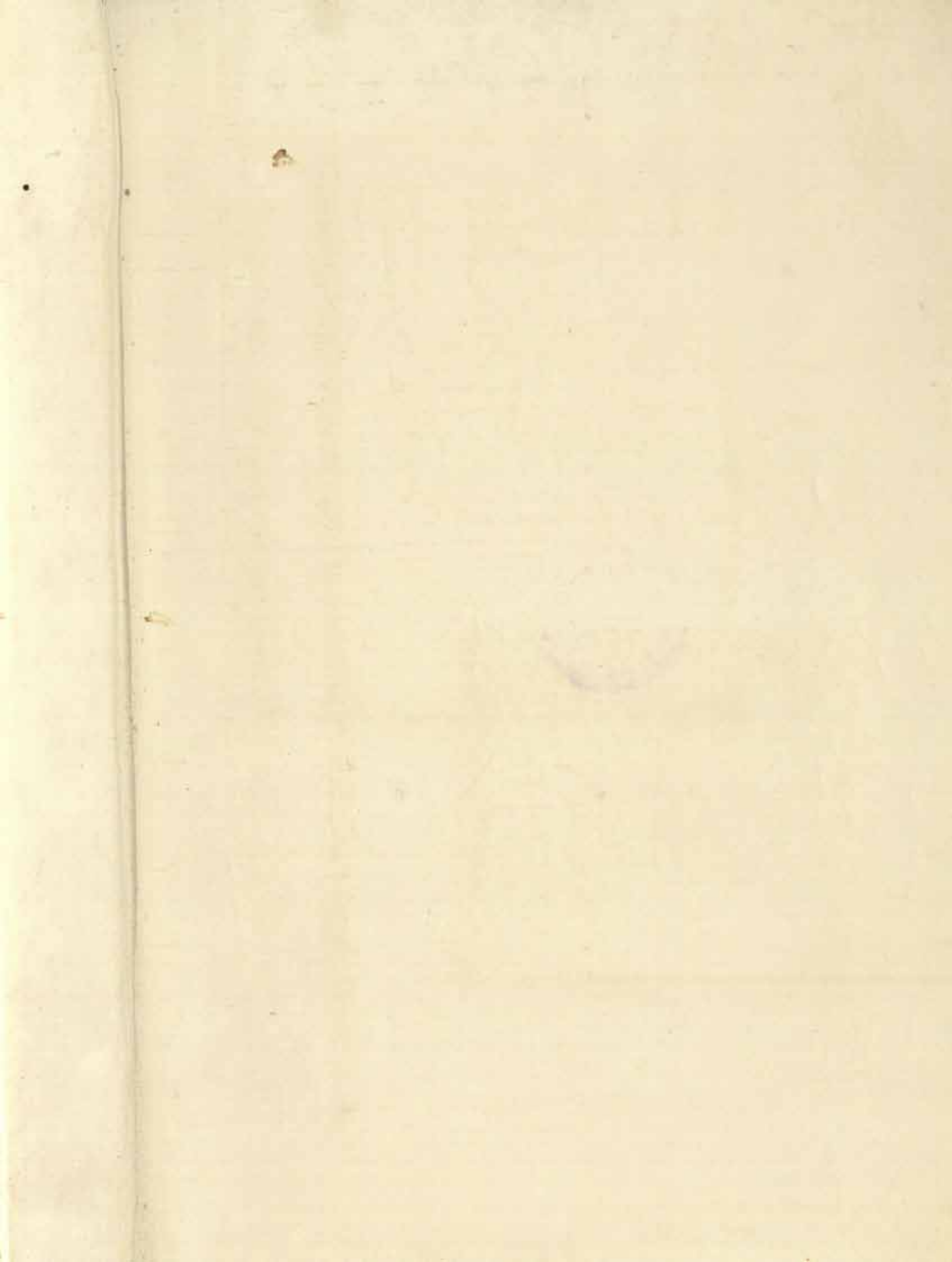
SCHEDULE OF PLATE XXXIV

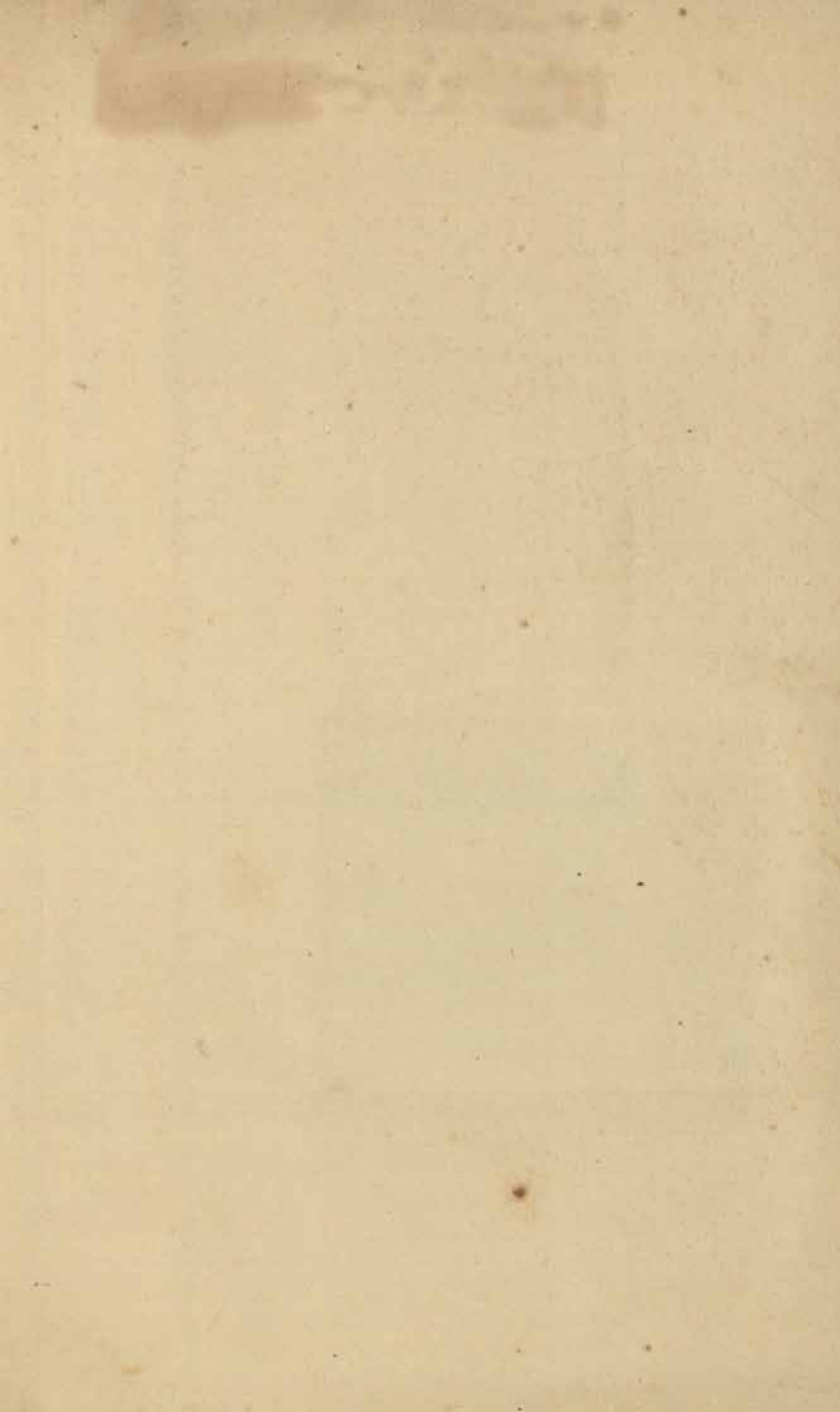
1 Khur. E. i. 252.	Alabaster.	Plain.
2 Khur. D. 245.	Brown-red.	Unpainted.
3 Khur. L. i. 286.	Red.	Unpainted.
4 Khur. D. 246.	Red with rich wash.	Crudely burnished.
5 Khur. B. ii. 214.	Buff.	Painted.
6 Khur. L. ii. 295.	Grey. Thin.	Painted.
7 Khur. B. i. 127.	Brown-grey.	Painted.
8 Khur. F. ii. 274.	Warm grey.	Painted.
9 Khur. B. ii. 174.	Red.	Painted.
10 Khur. F. i. 265.	Red.	Unpainted.
11 Khur. B. ii. 133.	Grey.	Painted.
12 Khur. B. ii. 157.	Grey.	Painted.
13 Ch. S. 02.	Grey.	Painted.
14 Khur. B. ii. 201.	Red.	Painted.
15 Khur. B. ii. 154.	Grey.	Painted.
16 Ch. S. 04.	Red.	Unpainted.
17 Khur. D. 243.	Red.	Unpainted.
18 Hus. 585.	Red.	Painted.
19 Hus. 508.	Red.	Painted.



SHAPES OF POTTERY VESSELS FROM CHĀH SARDŪ, CHĀH ḤUSAINĪ, AND
FROM KHURĀB BURIALS





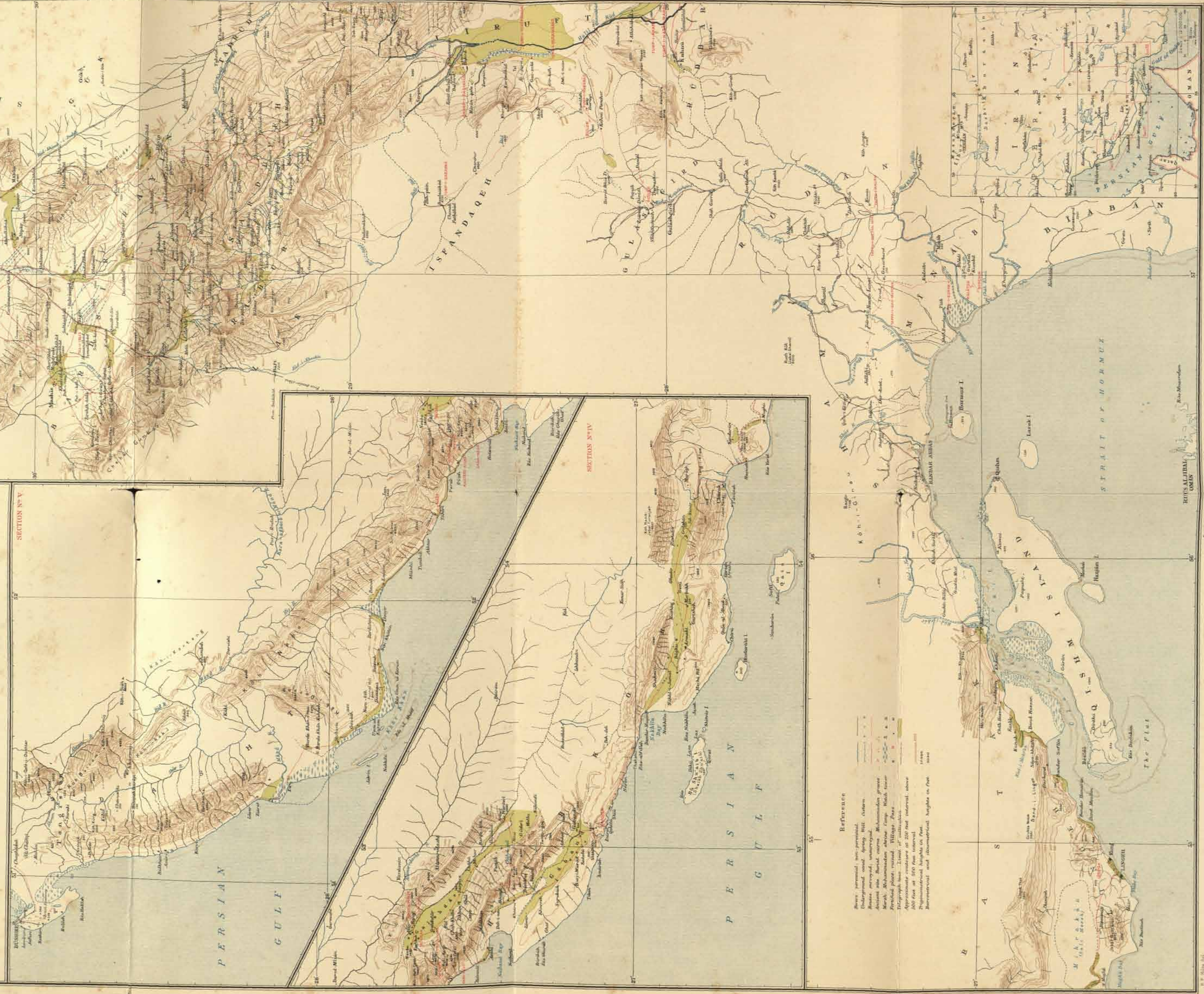


PARTS OF THE PROVINCES OF KERMAN AND GULF COAST

From surveys made in 1932-33
Under the direction and with the assistance of
SIR AUREL STEIN, K.C.I.E.

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SURVEYOR MUHAMMAD AYUB KHAN
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