

214549

UNIVERSAL
LIBRARY

OU_214549

214549

UNIVERSAL
LIBRARY

OSMANIA UNIVERSITY LIBRARY

Call No. 911.54
Author D93 D

Accession No. 2164

Title

This book should be returned on or before the date
last marked below.

Provincial Geographies of India

GENERAL EDITOR

SIR T. H. HOLLAND, K.C.I.E., D.Sc, F.R.S.

THE PANJAB, NORTH-WEST FRONTIER PROVINCE AND KASHMIR

CAMBRIDGE UNIVERSITY PRESS

C. F. CLAY, MANAGER

LONDON: FETTER LANE, E.C.

EDINBURGH; 100 PRINCES STREET



NEW YORK: G. P. PUTNAM'S SONS

Bombay, Calcutta and madras: MACMILLAN AND CO., LTD

Toronto: J. M. DENT AND SONS, LTD.

Eokoo: THE MARUZEN-KABUSHIKI-KAISHA

All rights reserved

THE PANJAB, NORTH-WEST
FRONTIER PROVINCE
AND KASHMIR

BY

SIR JAMES DOUIE, M.A., K.C.S.L

Cambridge:
at the University Press
1916

EDITOR'S PREFACE

IN his opening chapter Sir James Douie refers to the fact that the area treated in this volume—just one quarter of a million square miles—is comparable to that of Austria-Hungary. The comparison might be extended; for on ethnographical, linguistic and physical grounds, the geographical unit now treated is just as homogeneous in composition as the Dual Monarchy. It is only in the political sense and by force of the ruling classes, temporarily united in one monarch, that the term *Oesterreichisch* could be used to include the Poles of Galicia, the Czechs of Bohemia and Moravia, the Szeklers, Saxons and more numerous Rumanians of Transylvania, the Croats, Slovenes and Italians of "Illyria," with the Magyars of the Hungarian plain.

The term *Panjabi* much more nearly, but still imperfectly, covers the people of the Panjab, the North-West Frontier Province, Kashmir and the associated smaller Native States. The Sikh, Muhammadan and Hindu Jats, the Kashmiris and the Rajputs all belong to the tall, fair, leptorrhine Indo-Aryan main stock of the area, merging on the west and south-west into the Biluch and Pathan Turko-Iranian, and fringed in the

hill districts on the north with what have been described as products of the "contact metamorphism" with the Mongoloid tribes of Central Asia. Thus, in spite of the inevitable blurring of boundary lines, the political divisions treated together in this volume, form a fairly clean-cut geographical unit.

Sir James Douie, in this work, is obviously living over again the happy thirty-five years which he devoted to the service of North-West India: his accounts of the physiography, the flora and fauna, the people and the administration are essentially the personal recollections of one who has first studied the details as a District Officer and has afterwards corrected his perspective, stage by stage, from the successively higher view-point of a Commissioner, the Chief Secretary, Financial Commissioner, and finally as Officiating Lieut.-Governor. No one could more appropriately undertake the task of an accurate and well-proportioned thumb-nail sketch of North-West India and, what is equally important to the earnest reader, no author could more obviously delight in his subject.

T. H. H.

ALDERLEY EDGE,
March 9t, 1916

NOTE BY AUTHOR

My thanks are due to the Government of India for permission to use illustrations contained in official publications. Except where otherwise stated the numerous maps included in the volume are derived from this source. My obligations to provincial and district gazetteers have been endless. Sir Thomas Holdich kindly allowed me to reproduce some of the charts in his excellent book on *India*. The accuracy of the sections on geology and coins may be relied on, as they were written by masters of these subjects, Sir Thomas Holland and Mr R. B. Whitehead, I.C.S. Chapter xvII could not have been written at all without the help afforded by Mr Vincent Smith's *Early History of India*. I have acknowledged my debts to other friends in the " List of Illustrations."

J. M. D.

8 May 1916.

CONTENTS

CHAP.		pAGE
I .	Areas and Boundaries	1
II.	Mountains, Hills, and Plains	8
III.	Rivers	32
IV.	Geology and Mineral Resources	50
V.	Climate	64
VI.	Herbs, Shrubs, and Trees	71
VII.	Forests	86
VIII.	Beasts, Birds, Fishes, and Insects .	90
IX.	The People: Numbers, Races, and Languages	96
X .	The People: Religions	114
XI.	The People Education	122
XII.	Roads and Railways	127
XIII.	Canals	132
XIV.	Agriculture and Crops	142
XV.	Handicrafts and Manufactures	152
XVI.	Exports and Imports	159
XVII	History. Pre-Muhammadan Period, 500 B.C - 1000 A.D.	160
XVIII.	History Muhammadan Period, 1000 A.D._ 1764 A.D.	168
XIX.	History. Sikh Period, 1764 A.D.-1849 A.D.	181
XX.	History: British Period, 1849 A.D.-1913 A.D. .	188
XXI.	Archaeology and Coins	200

CHAP.	PAGE
~~XXII.~~ Administration: General	212
~~XXIII.~~ Administration: Local	217
~~XXIV.~~ Revenue and Expenditure	219
~~XXV.~~ Panjab Districts and Delhi	224
~~XXVI.~~ The Panjab Native States	271
~~XXVII.~~ The Northwest Frontier Province :	291
~~XXVIII.~~ Kashmir and Jammu	314
~~XXIX.~~ Cities	325
~~XXX.~~ Other Places of Note	347

TABLES

I.	Tribes of Panjab including Native States and of N W. F. Province.	359
II.	Rainfall, Cultivation, Population, and Land Revenue	360
III.	Agricultural Diagrams.	362
IV.	Crops.	364
V.	Revenue and Expenditure of Panjab	366
	Index	367

LIST OF ILLUSTRATIONS

FIG.	PAGE
1. Arms of Panjab	1
2. Orographical Map (Holdich's <i>India</i>)	9
3. Nanga Parvat (Watson's <i>Gazetteer of Hazara</i>)	11
4. Burzil Pass (Sir Aurel Stein)	13
5. Rotang Pass (J. Coldstream)	15
6. Mt Haramukh (Sir Aurel Stein)	16
7. R. Jhelam in Kashmir—View towards Mohand Marg (Sir Aurel Stein)	18
8. Near Naran in Kagan Glen, Hazara (Watson's <i>Gazetteer of Hazara</i>)	19
9. Muztagh-Karakoram and Himalayan Ranges in Kashmir (Holdich's <i>India</i>)	21
10. The Khaibar Road (Holdich's <i>India</i>)	23
11. Pan jab Rivers" (Holdich's <i>India</i>)	33
12. The Indus at Attock (Sir Aurel Stein)	37
13. Indus at Kafirkot, D.I. Khan dt. (Sir Aurel Stein)	38
14. Fording the River at Lahore (E. B. Francis)	42
15. Bias at Manali (J. Coldstream)	44
16. Rainfall of different Seasons (Blanford)	52, 63
17. Average Barometric and Wind Chart for January (Blanford)	65
18. Average Barometric and Wind Chart for July (Blanford)	66
19. Banian or Bor trees (Sir Aurel Stein)	75
20. Deodars and Hill Temple (J. Coldstream)	80
21. Firs in Himalaya (J. Coldstream)	82
22. Chinars (Sir Aurel Stein)	83
23. Rhododendron campanulatum (J. Coldstream)	84
24. Big Game in Ladakh	92
25. Yaks (J. Coldstream)	93
26. Black Buck	95
27. Map showing density of population (<i>Panjab Census Report, 1911</i>)	97
28. Map showing increase and decrease of population { <i>Panjab Census Report, 1911</i>)	98
29. Map showing density of population in N.W.F. Province (<i>N.W. Provinces Census Report, 1911</i>)	99
30. Map showing density of population in Kashmir (<i>Kashmir Census Report, 1911</i>)	100
31. Jat Sikh Officers (Nand Ram)	103
32. Blind Beggar (E. B. Francis)	107

FIG.	PAGE
33. Dards (Sir Aurel Stein)	108
34. Map showing races (from <i>The People of India</i> , by Sir Herbert Risley. With permission of W. Thacker and Co., London)	109
35. Map showing distribution of languages (<i>Panjab Census Report</i> , 1911)	III
36. Map showing distribution of religions (<i>Panjab Census Report</i> , 1911)	115
37. Raghunath Temple, Jammu	116
38. Golden Temple, Amritsar (Mrs B. Roe)	117
39. Mosque in Lahore City (E. B. Francis)	118
40. God and Goddess, Chamba (H. H. the Raja of Chamba)	120
41. A Kulu godling and his attendants (J. Coldstream)	121
42. A School in the time preceding annexation	124
43. Poplar lined road to Sirmagar (Miss M. B. Douie)	128
44. Map showing railways	129
45. Map—Older Canals	134
46. Map—Canals	137
47. Map of Canals of Peshawar district	141
48. Persian Wheel Well and Ekka (Sir Aurel Stein)	143
49. A drove of goats—Lahore (E. B. Francis)	144
50. A steep bit of hill cultivation, Hazara (Watson's <i>Gazetteer of Hazdra</i>)	146
51. Preparing rice field in the Hills (J. Coldstream)	147
52. Carved doorway (Sir Aurel Stein)	151
53. Shoemaker's craft (Baden Powell <i>Panjab Manu- factures</i>)	153
54. Carved windows (Sir Aurel Stein)	155
55. Papier mache' work of Kashmir (Baden Powell <i>Panjab Manufactures</i>)	156
56. The Potter	157
57. Coin—obverse and reverse of Menander	163
58. Martand Temple (Miss Griffiths)	166
59. Baba Nanak and the Musician Mardana	174
60. Guru Govind Singh	176
61. Maharaja Ranjit Singh	182
62. Maharaja Kharak Singh	185
63. Nao Nihal Singh	185
64. Maharaja Sher Singh	185
65. Zamzama Gun (E. B. Francis)	187
66. Sir John Lawrence (from picture in National Portrait Gallery)	189
67. John Nicholson's Monument at Delhi (Lady Douie)	190
68. Sir Robert Montgomery	191
69. Panjab Camels at Lahore (E. B. Francis)	193
70. Sir Charles Aitchison (Bourne and Shepherd)	194
71. Sir Denzil Ibbetson (Albert Jenkins)	198
72. Sir Michael O'Dwyer (R. Ramlal Bhairulal and Son)	199

LIST OF ILLUSTRATIONS

xiii

FIG.	PAGE
73. Group of Chamba Temples (H.H. the Raja of Chamba)	201
74. Payer Temples—Kashmir (Sir Aurel Stein)	202
75. Reliquary (Government of India)	203
76. Colonnade in Kuwwat ul Islam Mosque	204
77. Kutb Minar (Miss M. B. Douie)	205
78. Tomb of Emperor Tughlak Shah (Miss M. 3. Douie)	206
79. Jama Masjid, Delhi	207
80. Tomb of Humayun (Miss M. B. Douie)	207
81. Badshahf Mosque, Lahore (E. B Francis)	208
82. Coins	210
83. Skeleton District Map of Panjab	223
84. Delhi Enclave	225
85. Hissar district with portions of the Phulkian States etc.	226
86. Rohtak district	228
87. Gurgaon district	230
88. Karnal district	231
89. Ambala district with Kalsia	233
90. Kangra district	235
91. Bias at Manali (J. Coldstream)	237
92. Religious Fair in Kulu (J Coldstream)	238
93. Kulu Women (J. Coldstream)	239
94. Hoshiarpur district	240
95. Jalandhar district and Kapurthala	242
96. Ludhiana district and adjoining Native States	243
97. Ferozepore district and Farfdkot	244
9 8 Gurdaspur district	246
9 9 Sialkot district	247
100. Gujranwala district	248
101. Amnatsar district	250
102. Lahore district	251
103. Gujrat district	252
104. Jhelam district	254
105. Rawalpindi district	255
106. Shop in Murree Bazar (Lady Dome)	256
107. Attock district	257
108. Mianwalf district	259
109. Shahpur district	261
no. Montgomery district	263
in. Lyallpur district	264
112. Jhang district	265
113. Multan district	266
114. Muzaffargarh district	268
115. Dera Ghazl Khan district	269
116. Maharaja of Patiala (C. Vandyk)	272
117. Maharaja of Jind	277
118. Maharaja Sir Hira Singh of Nabha (Bourne and Shepherd)	278
119. Maharaja of Kapurthala	279

FIG.		PAGE>
120.	Raja of Farldkot (Julian Rust)	280
121.	Nawabof Bahawalpur.	281
122.	Native States of Chamba, Mandf, Suket, Bilaspur,	284
123.	Raja Sunndar Bikram Parkash of Sirmtir	285
124.	Raja of Chamba (F. Bremner)	287
125.	Bashahr (Sketch Map by H. W. Emerson)	289
126.	Sir Harold Deane (F. Bremner)	292
127.	North-west Frontier Province.	293
128.	Dera Ismail Khan district	294
129.	Bannu district	295
130.	Kohat district	297
131.	Peshawar district.	298
132.	Hazara district	300
133.	Sir George Roos Keppel (Mauil and Fox)	303
134.	Tribal Territory north of Peshawar	304
135.	Tribal Territory to west of N.W.F. Province	308
136.	Khaibar Rifles	310
137.	North Wazfristan Militia and Border Post	313
138.	Maharaja of Kashmir.	315
139.	Jammu and Kashmir	316
140.	Takht i Suhman m Winter (Sir Aurel Stem)	318
141.	Ladakh Hills (Mrs Wynyard Brown)	320
142.	Zojila Pass (Mrs Wynyard Brown)	322
143.	Delhi Mutiny Monument.	327
144.	Kashmir Gate, Delhi	328
145.	Map of Delhi City.	329
146.	Darbar Medal	334
147.	Street in Lahore (E. B. Francis)	336
148.	Shahdara.	338
149.	Trans-border traders in Peshawar	343
150.	Mosque of Shah Hamadan (F. Bremner)	345

Map of territories of Maharaja of Jammu and
 Kashmir *a tendo f*
 Map of Panjab. ”

CHAPTER I

AREAS AND BOUNDARIES

Introductory.—Of the provinces of India the Panjab must always have a peculiar interest for Englishmen. Invasions by land from the west have perforce been launched across its great plains. The English were the first invaders who, possessing sea power, were able to outflank the mountain ranges which guard the north and west of India. Hence the Panjab was the last, and not the first, of their Indian conquests, and the courage and efficiency of the Sikh soldiery, even after the guiding hand of



Fig. i. Arms of Panjab.

the old Maharaja Ranjit Singh was withdrawn, made it also one of the hardest. The success of the early administration of the province, which a few years after annexation made it possible to use its resources in fighting men to help in the task of putting down the mutiny, has always been a matter of just pride, while the less familiar story of the conquests of peace in the first sixty years of British rule may well arouse similar feelings.

Scope of work.—A geography of the Panjab will fitly embrace an account also of the North West Frontier

Province, which in 1901 was severed from it and formed into a separate administration, of the small area recently placed directly under the government of India on the transfer of the capital from Calcutta to Delhi, and of the native states in political dependence on the Panjab Government. It will also be convenient to include Kashmir and the tribal territory beyond the frontier of British India which is politically controlled from Peshawar. The whole tract covers ten degrees of latitude and eleven of longitude. The furthest point of the Kashmir frontier is in $37^{\circ} 2' \text{ N.}$, which is much the same as the latitude of Syracuse. In the south-east the Pan jab ends at $27^{\circ} 4' \text{ N.}$, corresponding roughly to the position of the southernmost of the Canary Islands. Lines drawn west from Peshawar and Lahore would pass to the north of Beirut and Jerusalem respectively. Multan and Cairo are in the same latitude, and so are Delhi and Teneriffe. Kashmir stretches eastwards to longitude $80^{\circ} 3'$ and the westernmost part of Wazfnstan is in $69^{\circ} 2' \text{ E.}$

Distribution of Area.—The area dealt with is roughly 253,000 square miles. This is but two-thirteenths of the area of the Indian Empire, and yet it is less by only 10,000 square miles than that of Austria-Hungary including Bosnia and Herzegovina. The area consists of:

	sq miles
(1) The Panjab	97,000
(2) Native States dependent on Panjab Government ..	36,500
(3) Kashmir	81,000
(4) North West Frontier Province	13,000
(5) Tribal territory under the political control of the Chief Commissioner of North West Frontier Province, roughly	25,500

Approximately 136,000 square miles may be classed as highlands and 117,000 as plains, and these may be distributed as follows over the above divisions :

		Highlands	Plains
		sq miles	sq miles
(1)	Panjab, British	11,000	86,000
(2)	Panjab, Native States	12,000	24,500
(3)	Kashmir	81,000	—
(4)	North West Frontier Province	6,500	6,500
(5)	Tribal Territory	• 25,500	—

On the north the highlands include the Himalayan and sub-Himalayan (Siwalik) tracts to the south and east of the Indus, and north of that river the Muztagh-Karakoram range and the bleak salt plateau beyond that range reaching almost up to the Kuenlun mountains. To the west of the Indus they include those spurs of the Hindu Kush which run into Chitral and Dir, the Buner and Swat hills, the Safed Koh, the Waziristan hills, the Suliman range, and the low hills in the trans-Indus districts of the North West Frontier Province.

Boundary with China.—There is a point to the north of Hunza in Kashmir where three great mountain chains, the Muztagh from the south-east, the Hindu Kush from the south-west, and the Sarikol (an offshoot of the Kuenlun) from the north-east, meet. It is also the meeting-place of the Indian, Chinese, and Russian empires and of Afghanistan. Westwards from this the boundary of Kashmir and Chinese Turkestan runs for 350 miles (omitting curves) through a desolate upland lying well to the north of the Muztagh-Karakoram range. Finally in the north-east corner of Kashmir the frontier impinges on the great Central Asian axis of the Kuenlun. From this point it turns southwards and separates Chinese Tibet from the salt Lingzi Thang plains and the Indus valley in Kashmir, and the eastern part of the native state of Bashahr, which physically form a portion of Tibet.

Boundary with United Provinces.—The south-east corner of Bashahr is a little to the north of the great Kedarnath peak in the Central Himalaya and of the

source of the Jamna. Here the frontier strikes to the west dividing Bashahr from Teri Garhwal, a native state under the control of the government of the United Provinces. Turning again to the south it runs to the junction of the Tons and Jamna, separating Teri Garhwal from Sirmur and some of the smaller Simla Hill States. Henceforth the Jamna is with small exceptions the boundary between the Panjab and the United Provinces.

Boundary with Afghanistan.—We must now return to our starting-point at the eastern extremity of the Hindu Kush, and trace the boundary with Afghanistan. The frontier runs west and south-west along the Hindu Kush to the Dorah pass dividing Chitral from the Afghan province of Wakhan, and streams which drain into the Indus from the head waters of the Oxus. At the Dorah pass it turns sharply to the south, following a great spur which parts the valley of the Chitral river (British) from that of its Afghan affluent, the Bashgol. Below the junction of the two streams at Arnawai the Chitral changes its name and becomes the Kunar. Near this point the " Durand " line begins. In 1893 an agreement was made between the Amir Abdurrahman and Sir Mortimer Durand as representative of the British Government determining the frontier line from Chandak in the valley of the Kunar, twelve miles north of Asmar, to the Persian border. Asmar is an Afghan village on the left bank of the Kunar to the south of Arnawai. In 1894 the line was demarcated along the eastern watershed of the Kunar valley to Nawakotal on the confines of Bajaur and the country of the Mohmands.

Thence the frontier, which has not been demarcated, passes through the heart of the Mohmand country to the Kabul river and beyond it to our frontier post in the Khaibar at Landikhana.

From this point the line, still undemarcated, runs

on in a south-westerly direction to the Safed Koh, and then strikes west along it to the Sikaram mountain near the Paiwar Kotal at the head of the Kurram valley. From Sikaram the frontier runs south and south-east crossing the upper waters of the Kurram, and dividing our possessions from the Afghan province of Khost. This line was demarcated in 1894.

At the south of the Kurram valley the frontier sweeps round to the west leaving in the British sphere the valley of the Tochi. Turning again to the south it crosses the upper waters of the Tochi and passes round the back of Waziristan by the Shawal valley and the plains about Wana to Domandi on the Gomal river, where Afghanistan, Biluchistan, and the North West Frontier Province meet. The Waziristan boundary was demarcated in 1895.

Political and Administrative Boundaries.—The boundary described above defines spheres of influence, and only in the Kurram valley does it coincide with that of the districts for whose orderly administration we hold ourselves responsible. All we ask of Wazirs, Afridis, or Mohmands is to leave our people at peace ; we have no concern with their quarrels or blood feuds, so long as they abide in their mountains or only leave them for the sake of lawful gain. Our administrative boundary, which speaking broadly we took over from the Sikhs, usually runs at the foot of the hills. A glance at the map will show that between Peshawar and Kohat the territory of the independent tribes comes down almost to the Indus. At this point the hills occupied by the Jowaki section of the Afridi tribe push out a great tongue eastwards. Our military frontier road runs through these hills, and we actually pay the tribesmen of the Kohat pass for our right of way. Another tongue of tribal territory reaches right down to the Indus, and almost severs the Peshawar and Hazara districts. Further

north the frontier of Hazara lies well to the east of the Indus.

Frontier with Biluchistan.—At Domandi the frontier turns to the east, and following the Gomal river to its junction with the Zhob at Kajuri Kach forms the boundary of the two British administrations. Henceforth the general direction of the line is determined by the trend of the Suliman range. It runs south to the Vehoa pass, where the country of the Pathans of the North West Frontier Province ends and that of the Hill and Plain Biluches subject to the Pan jab Government begins. From the Vehoa pass to the Kaha torrent the line is drawn so as to leave Biluch tribes with the Panjab and Pathan tribes with the Biluchistan Agency. South of the Kaha the division is between Biluch tribes, the Marris and Bugtis to the west being managed from Quetta, and the Gurchanis and Mazaris, who are largely settled in the plains, being included in Dera Ghazi Khan, the trans-Indus district of the Panjab. At the south-west corner of the Dera Ghazi Khan district the Panjab, Sind, and Biluchistan meet. From this point the short common boundary of the Panjab and Sind runs east to the Indus.

The Southern Boundary.—East of the Indus the frontier runs south-east for about fifty miles parting Sind from the Bahawalpur State, till a point is reached where Sind, Rajputana, and Bahawalpur join. A little further to the east is the southern extremity of Bahawalpur at $70^{\circ} 8' \text{ E.}$ and $27^{\circ} 5' \text{ N.}$ From this point a line drawn due east would at a distance of 370 miles pass a few miles to the north of the south end of Gurgaon and a few miles to the south of the border of the Narnaul tract of Patiala. Between Narnaul and the south-east corner of the Bahawalpur State the great Rajputana desert, mainly occupied in this quarter by Bikaner, thrusts

northwards a huge wedge reaching almost up to the Sutlej To the west of the wedge is Bahawalpur and to the east the British district of Hissar. The apex is less than 100 miles from Lahore, while a line drawn due south from that city to latitude 27.5° north would exceed 270 miles in length. The Jaipur State lies to the south and west of Narnaul, while Gurgaon has across its southern frontiers Alwar and Bharatpur, and near the Jamna the Muttra district of the United Provinces.

CHAPTER II

MOUNTAINS, HILLS, AND PLAINS

The Great Northern Rampart.—The huge mountain rampart which guards the northern frontier of India thrusts out in the north-west a great bastion whose outer walls are the Hindu Kush and the Muztagh-Karakoram ranges. Behind the latter with a general trend from south-east to north-west are the great valley of the Indus to the point near Gilgit where it turns sharply to the south, and a succession of mountain chains and glens making up the Himalayan tract, through which the five rivers of the Panjab and the Jamna find their way to the plains. To meet trans-Indus extensions of the Himalaya the Hindu Kush pushes out from its main axis great spurs to the south, flanking the valleys which drain into the Indus either directly or through the Kabul river.

The Himalaya.—Tibet, which from the point of view of physical geography includes a large and little known area in the Kashmir State to the north of the Karakoram range, is a lofty, desolate, wind swept plateau with a mean elevation of about 15,000 feet. In the part of it situated to the north of the north-west corner of Nipal lies the Manasarowar lake, in the neighbourhood of which three great Indian rivers, the Tsanpo or Brahmaputra, the Sutlej, and the Indus, take their rise. The Indus flows to the north-west for 500 miles and then turns abruptly to the south to seek its distant home in the

Indian Ocean. The Tsanpo has a still longer course of 800 miles eastwards before it too bends southwards to flow through Assam into the Bay of Bengal. Between the points where these two giant rivers change their direction there extends for a distance of 1500 miles the



Fig. 2. Orographical Map.

vast congeries of mountain ranges known collectively as the "Himalaya" or "Abode of Snow." As a matter of convenience the name is sometimes confined to the mountains east of the Indus, but geologically the hills of Buner and Swat to the north of Peshawar probably belong to the same system. In Sanskrit literature the

Himalaya is also known as "Himavata," whence the classical Emodus.

The Kumaon Himalaya.—The Himalaya may be divided longitudinally into three sections, the eastern or Sikkim, the mid or Kumaon, and the north-western or Ladakh. With the first we are not concerned. The Kumaon section lies mainly in the United Provinces, but it includes the sources of the Jamna, and contains the chain in the Panjab which is at once the southern watershed of the Sutlej and the great divide between the two river systems of Northern India, the Gangetic draining into the Bay of Bengal, and the Indus carrying the enormous discharge of the north-west Himalaya, the Muztagh-Karakoram, and the Hindu Kush ranges into the Indian Ocean. Simla stands on the south-western end of this watershed, and below it the Himalaya drops rapidly to the Siwalik foot-hills and to the plains. Jakko, the *deoddar-clad* hill round which so much of the life of the summer capital of India revolves, attains a height of 8000 feet. The highest peak within a radius of 25 miles of Simla is the Chor, which is over 12,000 feet high, and does not lose its snow cap till May. Hattu, the well-known hill above Narkanda, which is 40 miles from Simla by road, is 1000 feet lower. But further west in Bashahr the higher peaks range from 16,000 to 22,000 feet.

The Inner Himalaya Or Zaskar Range.—The division of the Himalaya into the three sections named above is convenient for descriptive purposes. But its chief axis runs through all the sections. East of Nipal it strikes into Tibet not very far from the source of the Tsanpo, is soon pierced by the gorge of the Sutlej, and beyond it forms the southern watershed of the huge Indus valley. In the west this great rampart is known as the Zaskar range. For a few short distance it is the



Fig. 3. Nanga Parvat.

boundary between the Panjab and Kashmir, separating two outlying portions of the Kangra district, Lahul and Spiti, from Ladakh. In this section the peaks are from 19,000 to 21,000 feet high, and the Baralacha pass on the road from the Kulu valley in Kangra to Leh, the capital of Ladakh, is at an elevation of about 16,500 feet. In Kashmir the Zaskar or Inner Himalaya divides the valley of the Indus from those of the Chenab and Jhelam. It has no mountain to dispute supremacy with Everest (29,000 feet), or Kinchinjunga in the Eastern Himalaya, but the inferiority is only relative. The twin peaks called Nun and Kun to the east of Srinagar exceed 23,000 feet, and in the extreme north-west the grand mountain mass of Nanga Parvat towers above the Indus to a height of 26,182 feet. The lowest point in the chain is the Zojila (11,300 feet) on the route from Srinagar, the capital of Kashmir, to Leh on the Indus

The road from Srinagar to Gilgit passes over the Burzil pass at an elevation of 13,500 feet.

The Zojila is at the top of the beautiful valley of the Sind river, a tributary of the Jhelam. The lofty Zaskar range blocks the inward flow of the monsoon, and once the Zojila is crossed the aspect of the country entirely changes. The land of forest glades and green pastures is left behind, and a region of naked and desolate grandeur begins.

"The waste of snow____is the frontier of barren Tibet, where sandy wastes replace verdant meadows, and where the wild ridges, jutting up against the sky, are kept bare of vegetation, their strata crumbling under the destructive action of frost and water, leaving bare ribs of gaunt and often fantastic outline... The colouring of the mountains is remarkable throughout Ladakh and nowhere more so than near the Fotuld (a pass on the road to Leh to the south of the Indus

gorge)——As we ascend the peaks suggest organ pipes, so vertical are the ridges, so jagged the ascending outlines. And each pipe is painted a different colour——pale slate green, purple, yellow, grey, orange, and chocolate, each colour corresponding with a layer of the slate, shale, limestone, or trap strata" (Neve's *Picturesque Kashmir*, pp. 108 and 117).

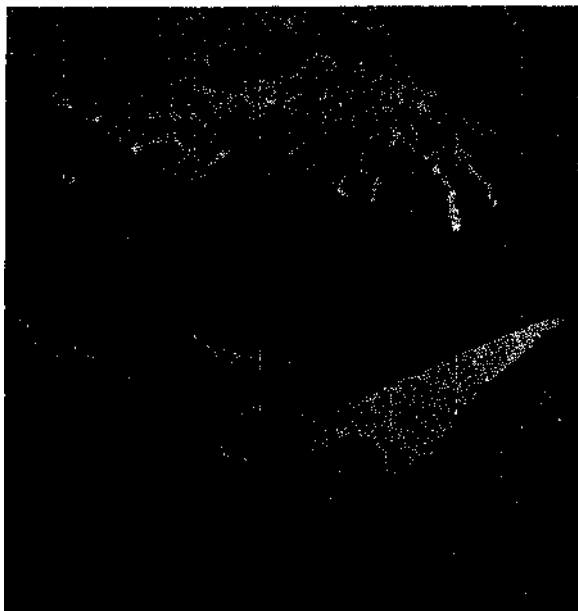


Fig. 4. Burzil Pass,

In all this desolation there are tiny oases where level soil and a supply of river water permit of cultivation and of some tree growth.

Water divide near Baralacha and Rotang Passes in Kulu.—We have seen that the Indus and its greatest tributary, the Sutlej, rise beyond the Himalaya in the

Tibetan plateau. The next great water divide is in the neighbourhood of the Baralacha pass and the Rotang pass, 30 miles to the south of it. The route from Simla to Leh runs at a general level of 7000 to 9000 feet along or near the Sutlej-Jamna watershed to Narkanda (8800 feet). Here it leaves the Hindustan-Tibet road and drops rapidly into the Sutlej gorge, where the Lurf bridge is only 2650 feet above sea level. Rising steeply on the other side the Jalauri pass on the watershed between the Sutlej and the Bias is crossed at an elevation of 10,800 feet. A more gradual descent brings the traveller to the Bias at Larji, 3080 feet above sea level. The route then follows the course of the Bias through the beautiful Kulu valley to the Rotang pass (13,326 feet), near which the river rises. The upper part of the valley is flanked on the west by the short, but very lofty Bara Bangahal range, dividing Kulu from Kangra and the source of the Bias from that of the Ravi. Beyond the Rotang is Lahul, which is divided by a watershed from Spiti and the torrents which drain into the Sutlej. On the western side of this watershed are the sources of the Chandra and Bhaga, which unite to form the river known in the plains as the Chenab.

Mid Himalaya or Pangti Range.—The Mid Himalayan or Pangti range, striking west from the Rotang pass and the northern end of the Bara Bangahal chain, passes through the heart of Chamba dividing the valley of the Chenab (Pangti) from that of the Ravi. After entering Kashmir it crosses the Chenab near the Kolahoi cone (17,900 feet) and the head waters of the Jhelam. Thence it continues west over Haramukh (16,900 feet), which casts its shadow southwards on the Wular lake, to the valley of the Kishnganga, and probably across it to the mountains which flank the magnificent Kagan glen in Hazara.



Outer Himalaya or Dhauladhar-Pir Panjal Range.—The Outer Himalaya also starts from a point near the Rotang pass, but some way to the south of the offset of the Mid Himalayan chain. Its main axis runs parallel to the latter, and under the name of the Dhauladhar (white ridge) forms the boundary of the Chamba State and Kangra, behind whose headquarters at Dharmsala it stands up like a huge wall. It has a mean elevation

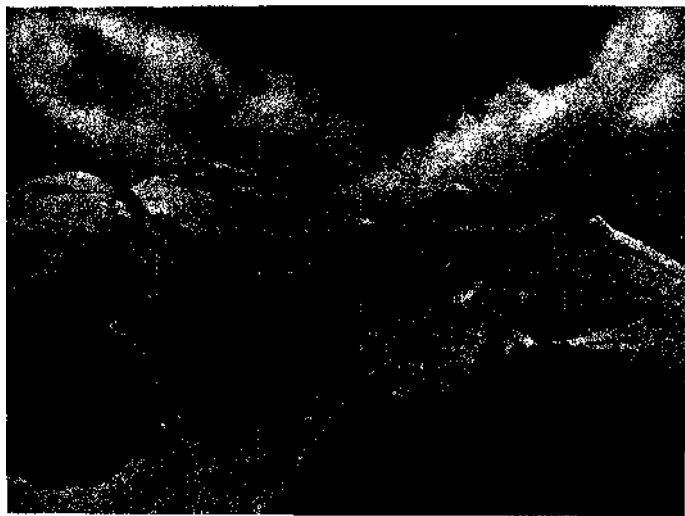


Fig. 6. Mt Haramukh.

of 15,000 feet, but rises as high as 16,000. -It passes from Chamba into Bhadarwah in Kashmir, and crossing the Chenab is carried on as the Pir Panjal range through the south of that State. With an elevation of only 14,000 or 15,000 feet it is a dwarf as compared with the giants of the Inner Himalayan and Muztagh-Karakoram chains. But it hides them from the dwellers in the Pan jab, and its snowy crest is a very striking

II] MOUNTAINS, HILLS AND PLAINS

picture as seen in the cold weather from the plains of Rawalpindi, Jhelam, and Gujrat. The Outer Himalaya is continued beyond the gorges of the Jhelam and Kishn-ganga rivers in Kajnag and the hills of the Hazara district. Near the eastern extremity of the Dhauladhar section of the Outer Himalaya it sends out southwards between Kulu and Mandi a lower offshoot. This is crossed by the Babbu (9480 feet) and Dulchi passes, connecting Kulu with Kangra through Mandi. Geologically the Kulu-Mandi range appears to be continued to the east of the Bias and across the Sutlej over Hattu and the Chor to the hills near Masiiri (Mussoorie), a well-known hill station in the United Provinces. Another offshoot at the western end of the Dhauladhar passes through the beautiful hill station of Dalhousie, and sinks into the low hills to the east of the Ravi, where it leaves Chamba and enters the British district of Gurdaspur.

River Valleys and Passes in the Himalaya—While these principal chains can be traced from south-east to north-west over hundreds of miles it must be remembered that the Himalaya is a mountain mass from 150 to 200 miles broad, that the main axes are linked together by subsidiary cross chains dividing the head waters of great rivers, and flanked by long and lofty ridges running down at various angles to the gorges of these streams and their tributaries. The typical Himalayan river runs in a gorge with mountains dipping down pretty steeply to its sides. The lower slopes are cultivated, but the land is usually stony and uneven, and as a whole the crops are not of a high class. The open valleys of the Jhelam in Kashmir and of the Bias in Kulu are exceptions. Passes in the Himalaya are not defiles between high cliffs, but cross the crest of a ridge at a point where the chain is locally depressed, and snow melts soonest. In the Outer and Mid Himalaya the line

of perpetual snow is at about 16,000 feet, but for six months of the year the snow-line comes down 5000 feet lower. In the Inner Himalaya and the Muztagh-Karakoram, to which the monsoon does not penetrate, the air is so dry that less snow falls and the line is a good deal higher.

Himalayan Scenery.—Certain things strike any observant traveller in the Himalaya. One is the comparative absence of running or still water, except in the

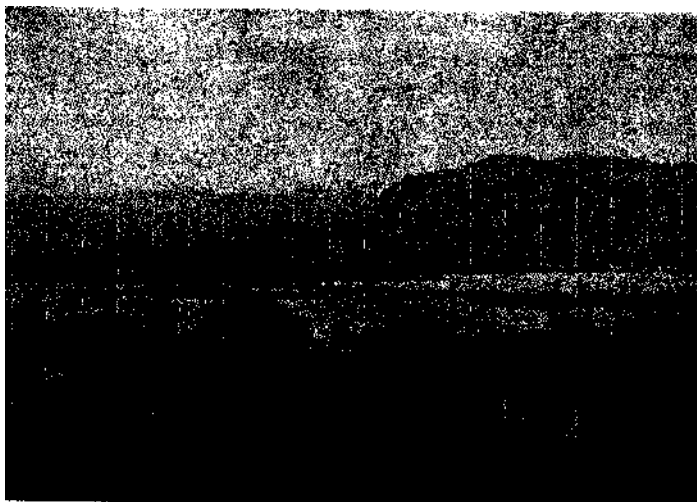


Fig. 7. R. Jhelam in Kashmir—View towards Mohand Marg.

height of the rainy season, away from the large rivers. The slope is so rapid that ordinary falls of rain run off with great rapidity. The mountain scenery is often magnificent and the forests are beautiful, but the absence of water robs the landscape of a charm which would make it really perfect. Where this too is present, as in the valley of the Bias in Kulu and those of the Jhelam and its tributaries in Kashmir and Hazara, the eye has

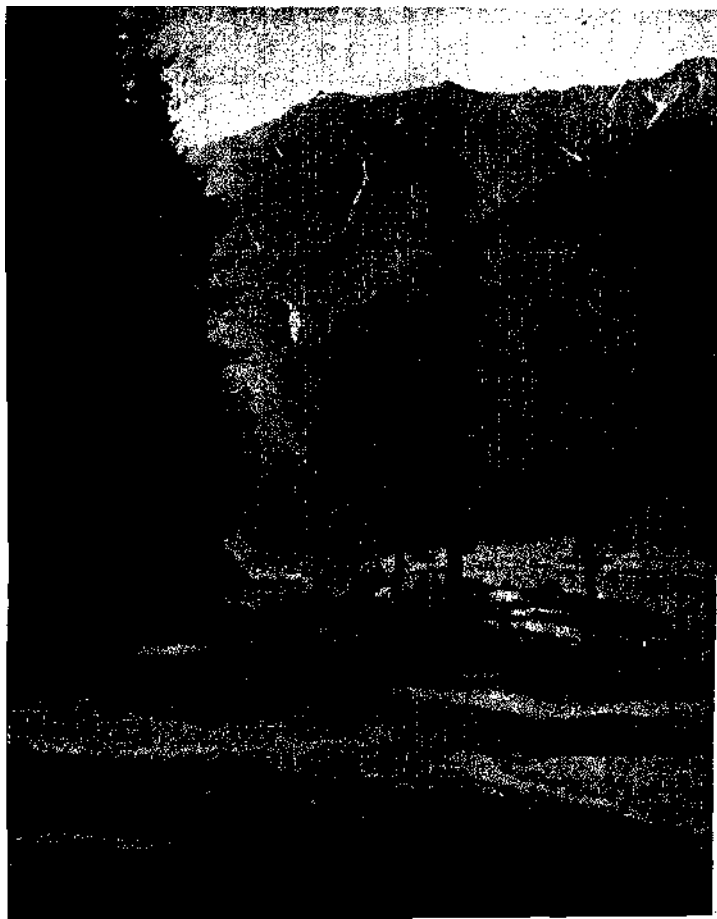


Fig. 8. Near Naran in Kagan Glen, Hazara.

its full fruition of content. Another is the silence of the forests. Bird and beast are there, but they are little in evidence. A third feature which can hardly be missed is the contrast between the northern and the southern slopes. The former will often be clothed with forest while the latter is a bare stony slope covered according to season with brown or green grass interspersed with bushes of indigo, barberry, or the hog plum (*Prinsepia utilis*). The reason is that the northern side enjoys much more shade, snow lies longer, and the supply of moisture is therefore greater. The grazier for the same reason is less tempted to fire the hill side in order to promote the growth of grass, a practice which is fatal to all forest growth. The rich and varied flora of the Himalaya will be referred to later.

Muztagh-Karakoram Ranges.—The Muztagh-Karakoram mountains form the northern watershed of the Indus. The range consists of more than one main axis. The name Karakoram is appropriated to the eastern part of the system which originates at E. longitude 79° near the Pangong lake in the Tibetan plateau a little beyond the boundary of Kashmir. Beyond the Karakoram pass (18,550 ft.) is a lofty bleak upland with salt lakes dotted over its surface. Through this inhospitable region and over the Karakoram pass and the Sasser-la (17,500 ft.) the trade route from Yarkand to Leh runs. The road is only open for three months in the year, and the dangers and hardships are great. In 1898 Dr Bullock Workman and his wife marched along it across the Shyok river, up the valley of the Nubra, and over the Sasser-la to the Karakoram pass. The scenery is an exaggeration of that described by Dr Neve as seen on the road from the Zoji-la to Leh. There is a powerful picture of its weird repellent grandeur in the Workmans* book entitled *In the Ice World of Himalaya* (pp. 28-29, 30-32)- The

poet who had found ideas for a new Paradiso in the Vale of Kashmir might here get suggestions for a new Inferno.

The Karakoram range culminates in the north-west near the Muztagh pass in a group of majestic peaks including K 2 or Mount Godwin Austen (28,265 feet),

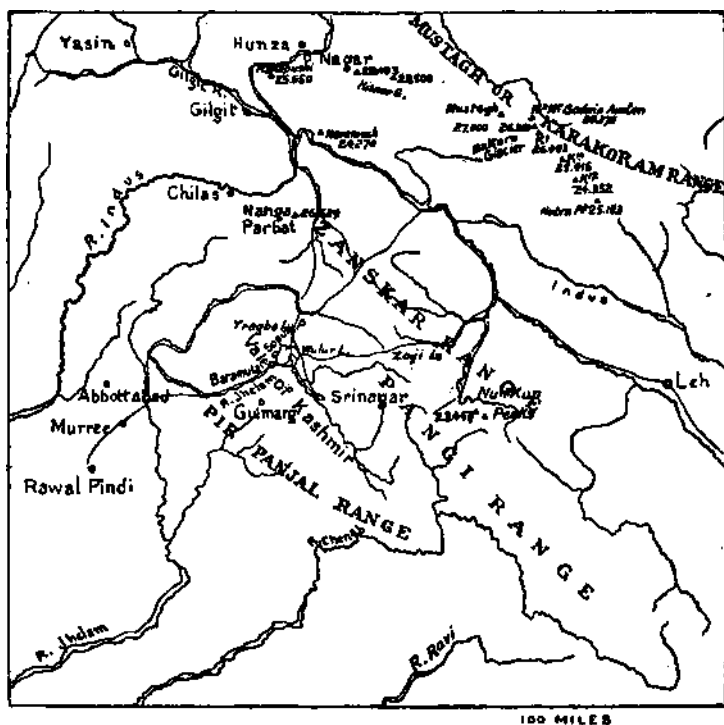


Fig. 9. Muztagh-Karakoram and Himalayan Ranges in Kashmir.

Gasherbrum, and Masherbrum, which tower over and feed the vast Boltoro glacier. The first of these giants is the second largest mountain in the world. The Duke of the Abruzzi ascended it to the height of 24,600 feet, and so established a climbing record. The Muztagh chain carries on the northern bastion to the valley of

the Hunza river and the western extremity of the Hindu Kush. It has several peaks exceeding 25,000 feet. The most famous is Rakiposhi which looks down on Hunza from a height of 25,550 feet.

, The Hindu Kush.—The Muztagh chain from the south-east, the Sarikol from the north-east, and the Hindu Kush from the south-west, meet at a point to the north of Hunza. The last runs westward and south-westward for about 200 miles to the Dorah pass (14,800 feet), separating the valleys which drain into the Indus from the head waters of the Oxus, and Hunza and Gilgit in Kashmir and Chitral in British India from the Afghan province of Wakhan. The highest point in the main axis, Sad Istragh (24,171 feet), is in this section. But the finest mountain scenery in the Hindu Kush is in the great spurs it thrusts out southwards to flank the glens which feed the Gilgit and Chitral rivers. Tirach Mir towers above Chitral to a height of 25,426 feet. From Tibet to the Dorah pass the northern frontier of India is impregnable. It is pierced by one or two difficult trade routes strewn with the bones of pack animals, but no large army has ever marched across it for the invasion of India. West of the Dorah pass the general level of the Hindu Kush is a good deal lower than that of its eastern section. The vital point in the defences of India in this quarter lies near Charikar to the north of Kabul, where the chain thins out, and three practicable passes debouch on the valley of the Kabul river. It is this fact that gives the town of Kabul its great strategic importance. The highest of the three passes, the Kaoshan or Hindu Kush (dead Hindu), crosses the chain at an elevation of 14,340 feet. It took its own name from the fate that befel a Hindu army when attempting to cross it, and has handed it on to the whole range. It is the pass which the armies of Alexander

and Babar used. The historical road for the invasion of India on this side has been by Charikar and the valley of the Kabul river to its junction with the Kunar below Jalalbad, thence up the Kunar valley and over one of the practicable passes which connect its eastern watershed with the Panjkora and Swat river valleys, whence the descent on Peshawar is easy. This is the route by which Alexander led the wing of the Grecian army which he commanded in person, and the one followed by Babar in 1518-19. Like Alexander, Babar fought his way through Bajaur, and crossed the Indus above Attock.

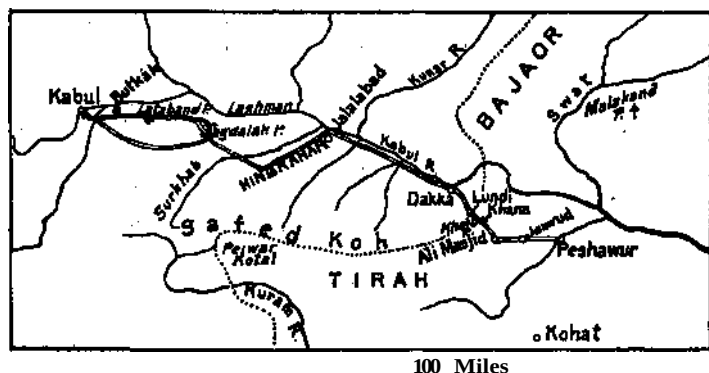


Fig. 10. The Khaibar Road.

The Khaibar.—A British force advancing on Kabul from Peshawar has never marched by the Kunar and Kabul valley route. It has always taken the Khaibar road, which only follows the Kabul river for less than one-third of the 170 miles which separate Peshawar from the Amir's capital. The military road from Peshawar to Landikhana lies far to the south of the river, from which it is shut off by difficult and rugged country held by the Mohmands.

Safed Koh.—From Landikhana the political boundary runs south-west to the Safed Koh (white mountain) and is continued westwards along that range to the Paiwar Kotal or pass (8450 feet). The Safed Koh forms the watershed of the Kabul and Kurram rivers. It is a fine pine clad chain with a general level of 12,000 feet, and its skyline is rarely free from snow. It culminates in the west near Paiwar Kotal in Sikaram (15,620 feet). To the west of the Peshawar and Kohat districts is a tangle of hills and valleys formed by outlying spurs of the Safed Koh. This difficult country is in the occupation of Afridis and Orakzais, who are under our political control.

The Kurram Valley.—The line of advance into Afghanistan through the Kurram valley is easy, and Lord Roberts used it when he marched towards Kabul in 1898. After the war we annexed the valley, leaving however the head waters of the Kurram in Afghan territory. The road to Kabul leaves the river far to the south before it crosses our frontier at Paiwar Kotal.

Waziristan Hills.—Between the Kurram valley and the Gomal river is a large block of very rough mountainous country known as Waziristan from the turbulent clan which occupies it. In the north it is drained by the Tochi. Westwards of the Tochi valley the country rises into lofty mountains. The upper waters of the Tochi and its affluents drain two fine glens known as Birmal and Shawal to the west of the country of the Mahsud Wazirs. The Tochi valley is the direct route from India to Ghazni, and nine centuries ago, when that decayed town was the capital of a powerful kingdom, it must often have heard the tramp of armed men. The loftiest peaks in Waziristan, Shuidar (11,000 feet) and Pirghal (11,600 feet), overhang Birmal. Further south, Wana, our post in south-west Waziristan, overlooks from its plateau the Gomal valley.

The Gomal Pass as a trade **route**.—East of Kajiirf Kach the Gomal flows through tribal territory to the Gomal pass from which it debouches into the plains of the Dera Ismail Khan district " The Gomal route is the oldest of all trade routes. Down it there yearly pours a succession of *Rafilas* (caravans) led and followed up by thousands of well-armed Pathan traders, called Powindahs, from the plains of Afghanistan to India. The Powindahs mostly belong to the Ghilzai tribes, and are not therefore true Afghans¹. Leaving their women and children encamped within British territory on our border, and their arms in the keeping of our frontier political officials, the Powindah makes his way southwards with his camel loads of fruit and silk, bales of camel and goat hair or sheepskin goods, carpets and other merchandise from Kabul and Bokhara, and conveys himself through the length and breadth of the Indian peninsula____He returns yearly to the cool summits of the Afghan hills and the open grassy plains, where his countless flocks of sheep and camels are scattered for the summer grazing " (Holdich/s *India*, pp. 80-81).

Physical features of hilly country between Peshawar and the Gomal river.—The physical features of the hill country between Peshawar and the Gomal pass may best be described in the words of Sir Thomas Holdich :

" Natural landscape beauty, indeed, may here be measured to a certain extent by altitude. The low ranges of sun-scorched, blackened ridge and furrow formation which form the approaches to the higher altitudes of the Afghan upland, and which are almost as regularly laid out by the hand of nature in some parts of the frontier as are the parallels....of the engineer who is besieging a fortress—these are by no means ' things of beauty/ and it is this class of formation and this form

¹ They are held to be of Turkish origin.

6i barren desolation that is most familiar to the frontier, officer____Shades of delicate purple and grey will not make up for the absence of the living green of vegetation But with higher altitudes a cooler climate and snow-fed soil is found, and as soon as vegetation grasps a root-hold there is the beginning of fine scenery. The upper pine-covered slopes of the Safed Koh are as picturesque as those of the Swiss Alps ; they are crowned by peaks whose wonderful altitudes are frozen beyond the possibility of vegetation, and are usually covered with snow wherever snow can lie. In Waziristan, hidden away in the higher recesses of its great mountains, are many valleys of great natural beauty, where we find the spreading poplar and the ilex in all the robust growth of an indigenous flora____Among the minor valleys Birmal perhaps takes precedence by right of its natural beauty. Here are stretches of park-like scenery where grass-covered slopes are dotted with clumps of *deoddr* and pine and intersected with rivulets hidden in banks of fern ; soft green glades open out to view from every turn in the folds of the hills, and above them the silent watch towers of Pirghal and Shuidar____look down from their snow-clad heights across the Afghan uplands to the hills beyond Ghaznf." (Holdich's *India*, pp. 81-82.)

The Sukman Range.—A well-marked mountain chain runs from the Gomal to the extreme south-west corner of the Dera Ghazi Khan district where the borders of Biluchistan, Sind, and the Panjab meet. It culminates forty miles south of the Gomal in the fine Kaisargarh mountain (11,295 feet), which is a very conspicuous object from the plains of the Derajat. On the side of Kaisargarh there is a shrine called Takht i Suliman or Throne of Solomon, and this is the name by which Englishmen usually know the mountain, and which has been passed on to the whole range. • Proceeding southwards

the general elevation of the chain drops steadily. But Fort Munro, the hill station of the Dera Ghazl Khan district, 200 miles south of the Takht, still stands 6300 feet above sea level, and it looks across at the fine peak of Ekbhai, which is more than 1000 feet higher. In the south of the Dera Ghazf Khan district the general level of the chain is low, and the Giandari hill, though only 4160 feet above the sea, stands out conspicuously. Finally near where the three jurisdictions meet the hills melt into the Kachh Gandava plain. Sir Thomas Holdich's description of the rugged Pathan hills applies also to the Suliman range. Kaisargarh is a fine limestone mountain crowned by a forest of the edible *chilgoza* pine. But the ordinary tree growth, where found at all, is of a much humbler kind, consisting of gnarled olives syid dwarf palms.

Passes and torrents in Suliman Hills.—The drainage of the western slopes of the Suliman range finding no exit on that side has had to wear out ways for itself towards the plains which lie between the foot of the hills and the Indus. This is the explanation of the large number of passes, about one hundred, which lead from the plains into the Suliman hills. The chief from north to south are the Vehoa, the Sangarh, the Khair, the Kaha, the Chachar, and the Siri, called from the torrents which flow through them to the plains. There is an easy route through the Chachar to Biluchistan. But unfortunately the water of the torrent is brackish,

Sub Himalaya or Siwaliks.—In its lowest ridges the Himalaya drops to a height of about 5000 feet. But the traveller to any of the summer resorts in the mountains passes through a zone of lower hills interspersed sometimes with valleys or "duns." These consist of Tertiary sandstones, clays, and boulder conglomerates, the debris in fact which the Himalaya has dropped in the course

of ages. To this group of hills and valleys the general name of Siwaliks is given. East of the Jhelam it includes the Nahan hills to the north of Ambala, the low hills of Kangra, Hoshiyarpur, Gurdaspur, and Jammu, and the Pabbi hills in Gujrat. But it is to the west of the Jhelam that the system has its greatest extension. Practically the whole of the soil of the plains of the Attock, Rawalpindi, and Jhelam districts consists of disintegrated Siwalik sandstone, and differs widely in appearance and agricultural quality from the alluviutti of the true Panjab plains. The low hills of these districts belong to the same system, but the Salt Range is only in part Siwalik. Altogether Siwalik deposits in the Panjab cover an area of 13,000 square miles. Beyond the Indus the hills of the Kohat district and a part of the Suliman range are of Tertiary age.

The Great Panjab Plain.—The passage from the highlands to the plains is as a rule abrupt, and the contrast between the two is extraordinary. This is true without qualification of the tract between the Jamna and the Jhelam. It is equally true of British districts west of the Jhelam and south of the Salt Range and of lines drawn from Kalabagh on the west bank of the Indus southwards to Paniala and thence north-west through the Pezu pass to the Waziristan hills. In all that vast plain, if we except the insignificant hills in the extreme south-west of the province ending to the north in the historic ridge at Delhi, some hillocks of gneiss near Tosham in Hissar, and the curious little isolated rocks at Kirana, Chiniot, and Sangla near the Chenab and Jhelam, the only eminences are petty ridges of wind-blown sand and the "*thehs* " or mounds which represent the accumulated debris of ancient village sites. At the end of the Jurassic period and later this great plain was part of a sea bed. Far removed as the Indian

ii] MOUNTAINS, HILLS, AND PLAINS

ocean now is the height above sea level of the Pan jab plain east of the Jhelam is nowhere above 1000 feet. Delhi and Lahore are both just above the 700 feet line. The hills mentioned above are humble time-worn outliers of the very ancient Aravalli system, to which the hills of Raj put ana belong. Kirana and Sangla were already of enormous age, when they were islands washed by the waves of the Tertiary sea. A description of the different parts of the vast Panjab plain, its great stretches of firm loam, and its tracts of sand and sand hills, which the casual observer might regard as pure desert, will be given in the paragraphs devoted to the different districts.

The Salt Range.—The tract west of the Jhelam, and bounded on the south by the Salt Range cis-Indus, and trans-Indus by the lines mentioned above, is of a more varied character. Time worn though the Salt Range has become by the waste of ages, it still rises at Sakesar, near its western extremity, to a height of 5000 feet. The eastern part of the range is mostly in the Jhelam district, and there the highest point is Chail (3700 feet) The hill of Tilla (3242 feet), which is a marked feature of the landscape looking westwards from Jhelam cantonment, is on a spur running north-east from the main chain. The Salt Range is poorly wooded, the dwarf acacia or *phuldhi* (*Acacia modesta*), the olive, and the *sanattha* shrub (*Dodonea viscosa*) are the commonest species. But these jagged and arid hills include some not infertile valleys, every inch of which is put under crop by the crowded population. To geologists the range is of special interest, including as it does at one end of the scale Cambrian beds of enormous antiquity and at the other rocks of Tertiary age. Embedded in the Cambrian strata there are great deposits of rock salt at Kheora, where the Mayo mine is situated.

At Kalabagh the Salt Range reappears on the far side of the Indus. Here the salt comes to the surface, and its jagged pinnacles present a remarkable appearance.

Country north of the Salt Range.—The country to the north of the Salt Range included in the districts of Jhelam, Rawalpindi, and Attock is often ravine-bitten and seamed with the white sandy beds of torrents. Generally speaking it is an arid precarious tract, but there are fertile stretches which will be mentioned in the descriptions of the districts. The general height of the plains north of the Salt Range is from 1000 feet to 2000 feet above sea level. The rise between Lahore and Rawalpindi is just over a thousand feet. Low hills usually form a feature of the landscape, pleasing at a distance or when softened by the evening light, but bare and jagged on a nearer view. The chief hills are the Margalla range between Hazara and Rawalpindi, the Kalachitta and the Khairimurat hills running east and west through Attock and the very dry and broken Narrara hills on the right bank of the Indus in the same district. Between the Margalla and Kalachitta hills is the Margalla pass on the main road from Rawalpindi to the passage of the Indus at Attock, and therefore a position of considerable strategical importance. The Kalachitta (black and white) chain is so called because the north side is formed of nummulitic limestone and the south mainly of a dark purple sandstone. The best tree-growth is therefore on the north side.

Peshawar, Kohdt, and Bannu.—Across the Indus the Peshawar and Bannu districts are basins ringed with hills and drained respectively by the Kabul and Kurram rivers with their affluents. Between these two basins lies the maze of bare broken hills and valleys which make up the Kohdt district. The cantonment Kohat is 1700 feet above sea level and no hill in the district

reaches 5000 feet. Near the Kohat border in the south-west of the Peshawar district are the Khattak hills, the culmination of which at Ghaibana Sir has a height of 5136 feet, and the military sanitarium of Cherat in the same chain is 600 feet lower. On the east the Maidani hills part Bannu from Isakhel, the trans-Indus *tahsil* of Mianwali, and on the south the Marwat hills divide it from Dera Ismail Khan. Both are humble ranges. The highest point in the Marwat hills is Shekhubudin, a bare and dry limestone rock rising to an elevation of over 4500 feet.

CHAPTER III

RIVERS

The Panjab Rivers.—"Panjab" is a Persian compound word, meaning "five waters/" and strictly speaking the word denotes the country between the valley of the Jhelam and that of the Sutlej. The intermediate rivers from west to east are the Chenab, the Ravi, and the Bias. Their combined waters at last flow into the Panjnad or "five rivers" at the south-west corner of the Multan district, and the volume of water which 44 miles lower down the Panjnad carries into the Indus is equal to the discharge of the latter. The first Aryan settlers knew this part of India as the land of the seven rivers (*sapta sindhavas*), adding to the five mentioned above the Indus and the Sarasvati. The old Vedic name is more appropriate than Panjab if we substitute the Jamna for the Sarasvati or Sarusti, which is now a petty stream.

River Valleys.—The cold weather traveller who is carried from Delhi to Rawalpindi over the great railway bridges at points chosen because there the waters of the rivers are confined by nature, or can be confined by art, within moderate limits, has little idea of what one of these rivers is like in flood time. He sees that, even at such favoured spots, between the low banks there is a stretch of sand far exceeding in width the main **channel**, where a considerable volume of water is running, **and** the minor depressions, in which a sluggish and

shallow flow may still be found. If, leaving the railway, he crosses a river by some bridge of boats or local ferry, he will find still wider expanses of sand sometimes bare and dry and white, at others moist and dark and covered with dwarf tamarisk. He may notice that, before he

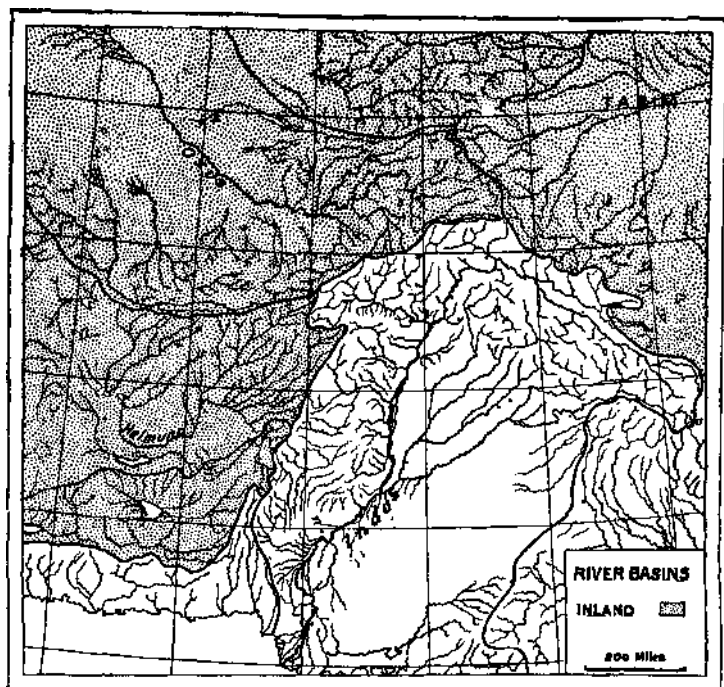


Fig. II. Panjab Rivers.

reaches the sand and the tamarisk scrub, he leaves by a gentle or abrupt descent the dry uplands, and passes into a lower, greener, and perhaps to his inexperienced eye more fertile seeming tract. This is the valley, often miles broad, through which the stream has moved in ever-shifting channels in the course of centuries. He

finds it hard to realize that, when the summer heats melt the Himalayan snows, and the monsoon currents, striking against the northern mountain walls, are precipitated in torrents of rain, the rush of water to the plains swells the river 20, 30, 40, or even 50 fold. The sandy bed then becomes full from bank to bank, and the silt laden waters spill over into the cultivated lowlands beyond. Accustomed to the stable streams of his own land, he cannot conceive the risks the riverside farmer in the Pan jab runs of having fruitful fields smothered in a night with barren sand, or lands and well and house sucked into the river-bed. So great and sudden are the changes, bad and good, wrought by river action that the loss and gain have to be measured up year by year for revenue purposes. Nor is the visitor likely to imagine that the main channel may in a few seasons become a quite subsidiary or wholly deserted bed. Like all streams, e.g. the Po, which flow from the mountains into a flat terrain, the Pan jab rivers are perpetually silting up their beds, and thus, by their own action, becoming diverted into new channels or into existing minor ones, which are scoured out afresh. If our traveller, leaving the railway at Rawalpindi, proceeds by *tonga* to the capital of Kashmir, he will find between Kohala and Baranuila another surprise awaiting him. The noble but sluggish river of the lowlands, which he crossed at the town of Jhelam, is here a swift and deep torrent, flowing over a boulder bed, and swirling round water-worn rocks in a gorge hemmed in by mountains. That is the typical state of the Himalayan rivers, though the same Jhelam above Baramiila is an exception, flowing there sluggishly through a very flat valley into a shallow lake.

The Indus Basin.—The river Sindh (Sanskrit, Sindhu), more familiar to us under its classical name of the Indus,

must have filled with astonishment every invader from the west, and it is not wonderful that they called after it the country that lay beyond. Its basin covers an area of 373,000 square miles. Confining attention to Asia these figures, large though they seem, are far exceeded by those of the Yangtsze-Kiang. The area of which a description is attempted in this book is, with the exception of a strip along the Jamna and the part of Kashmir lying beyond the Muztagh-Karakoram range, all included in the Indus basin. But it does not embrace the whole of it. Part is in Tibet, part in Afghanistan and Biluchistan, and part in Sindh, through which province the Indus flows for 450 miles, or one-quarter of its whole course of 1800 miles. It seems likely that the Jamna valley was not always an exception, or at least that that river once flowed westwards through Rajputana to the Indian ocean. The five great rivers of the Pan jab all drain into the Indus, and the Ghagar with its tributary, the Sarusti, which now, even when in flood, loses itself in the sands of Bikaner, probably once flowed down the old Hakra bed in Bahawalpur either into the Indus or by an independent bed now represented by an old flood channel of the Indus in Sindh, the Hakro or Nara, which passes through the Rann of Kachh.

The Indus outside British India.—To the north of the Manasarowar lake in Tibet is Kailas, the Hindu Olympus. On the side of this mountain the Indus is said to rise at a height of 17,000 feet. After a course of 200 miles or more it crosses the south-east boundary of the Kashmir State at an elevation of 13,800 feet. From the Kashmir frontier to Mt Haramosh west of Gilgit it flows steadily to the north-west for 350 miles. After 125 miles Leh, the capital of Ladakh, is reached at a height of 10,500 feet, and here the river is crossed by the trade route to Yarkand. A little below Leh

the Indus receives the Zaskar, which drains the south-east of Kashmir. After another 150 miles it flows through the basin, in which Skardo, the principal town in Baltistan, is situated. Above Skardo a large tributary, the Shyok, flows in from the east at an elevation of 8000 feet. The Shyok and its affluent, the Nubra, rise in the giant glaciers to the south-west of the Karakoram pass. After the Skardo basin is left behind the descent is rapid. The river rushes down a tremendous gorge, where it appears to break through the western Himalaya, skirts Haramosh, and at a point twenty-five miles east of Gilgit bends abruptly to the south. Shortly after it is joined from the west by the Gilgit river, and here the bed is about 4000 feet above sea level. Continuing to flow south for another twenty miles it resumes its westerly course to the north of Nanga Parvat and persists in it for 100 miles. Our political post of Chilas lies in this section on the south bank. Fifty or sixty miles west of Chilas the Indus turns finally to the south. From Jalkot, where the Kashmir frontier is left, to Palosi below the Mahaban mountain it flows for a hundred miles through territory over which we only exercise political control. Near Palosi, 812 miles from the source, the river enters British India. In Kashmir the Indus and the Shyok in some places flow placidly over alluvial flats, and at others with a rapid and broken current through narrow gorges. At Skardo their united stream is said, even in winter, to be 500 feet wide and nine or ten feet deep. If one of the deep gorges, as sometimes happens, is choked by a landslide, the flood that follows when the barrier finally bursts may spread devastation hundreds of miles away. To the north of the fertile Chach plain in Attock there is a wide stretch of land along the Indus, which still shows in its stony impoverished soil the effects of the great flood of 1841.

The Indus in British India.—After reaching British India the Indus soon becomes the boundary dividing Hazara and Peshawar, two districts of the North West Frontier Province. Lower down it parts Peshawar from the Panjab district of Attock. In this section after a time the hills recede on both sides, and the stream is wide and so shallow that it is fordable in places in the cold weather. There are islands, ferry boats and rafts



Fig. 12. The Indus at Attock.

can ply, and the only danger is from sudden freshets. Ohind, where Alexander crossed, is in this section. A more famous passage is at Attock just below the junction of the Kabul river. Here the heights again approach the Indus on either bank. The volume of water is vastly increased by the union of the Kabul river, which brings down the whole drainage of the southern face of the Hindu Kush. From the north it receives near Jalalabad the Kunar river, and near Charsadda in Peshawar the

Swat, which with its affluent the Panjkora drains Dir, Bajaur, and Swat. In the cold weather looking northwards from the Attock fort one sees the Kabul or Landai as a blue river quietly mingling with the Indus, and in the angle between them a stretch of white sand. But during floods the junction is the scene of a wild turmoil of waters. At Attock there are a railway bridge, a bridge of boats, and a ferry. The bed of the stream is 2000



Fig. 13. Indus at Kafirkot, D.I. Khan dt.

feet over sea level. For ninety miles below Attock the river is confined between bare and broken hills, till it finally emerges into the plains from the gorge above Kalabagh, where the Salt Range impinges on the left bank. Between Attock and Kalabagh the right bank is occupied by Peshawar and Kohat and the left by Attock and Mian wall. In this section the Indus is joined by the Haro and Soan torrents, and spanned at Khushalgarh by a railway bridge. This is the only other masonry

bridge crossing it in the Panjab. Elsewhere the passage has to be made by ferry boats or by boat bridges, which are taken down in the rainy season. At Kalabagh the height above sea level is less than 1000 feet. When it passes the western extremity of the Salt Range the river spreads out into a wide lake-like expanse of waters. It has now performed quite half of its long journey. Henceforth it receives no addition from the east till the Panjnad in the south-west corner of the Muzaffargarh district brings to it the whole tribute of the five rivers of the Panjab. Here, though the Indian ocean is still 500 miles distant, the channel is less than 300 feet above the sea. From the west it receives an important tributary in the Kurram, which, with its affluent the Tochi, rises in Afghanistan. The torrents from the Suliman Range are mostly used up for irrigation before they reach the Indus, but some of them mingle their waters with it in high floods. Below Kalabagh the Indus is a typical lowland river of great size, with many sandy islands in the bed and a wide valley subject to its inundations. Opposite Dera Ismail Khan the valley is seventeen miles across. As a plains river the Indus runs at first through the Mianwali district of the Panjab, then divides Mianwali from Dera Ismail Khan, and lastly parts Muzaffargarh and the Bahawalpur State from the Panjab frontier district of Dera Ghazi Khan.

The Jhelam.—The Jhelam, the most westernly of the five rivers of the Panjab, is called the Veth in Kashmir and locally in the Panjab plains the Vehat. These names correspond to the Bihat of the Muhammadan historians and the Hydaspes of the Greeks, and all go back to the Sanskrit Vitasta. Issuing from a deep pool at Vernag to the east of Islamabad in Kashmir it becomes navigable just below that town, and flows north-west in a lazy stream for 102 miles through Srinagar, the summer

capital, into the Wular lake, and beyond it to Baramiila. The banks are quite low and often cultivated to the river's edge. But across the flat valley there is on either side a splendid panorama of mountains. From Baramiila the character of the Jhelam suddenly changes, and for the next 70 miles to Kohala, where the traveller crosses by a fine bridge into the Panjab, it rushes down a deep gorge, whose sides are formed by the Kajmag mountains on the right, and the Pir Panjal on the left, bank. Between Baramiila and Kohala there is a drop from 5000 to 2000 feet. At Domel, the stage before Kohala the Jhelam receives from the north the waters of the Kishnganga, and lower down it is joined by the Kunhar, which drains the Kagan glen in Hazara. A little above Kohala it turns sharply to the south, continuing its character as a mountain stream hemmed in by the hills of Rawalpindi on the right bank and of the Punch State on the left. The hills gradually sink lower and lower, but on the left side only disappear a little above the cantonment of Jhelam, where there is a noble railway bridge. From Jhelam onwards the river is of the usual plains' type. After dividing the districts of Jhelam (right bank) and Gujrat (left), it flows through the Shahpur and Jhang districts, falling finally into the Chenab at Trimmu, 450 miles from its source. There is a second railway bridge at Haranpur on the Sind Sagar line, and a bridge of boats at Khushab, in the Shahpur district. The noblest and most varied scenery in the north-west Himalaya is in the catchment area of the Jhelam. The Kashmir valley and the valleys which drain into the Jhelam from the north, the Liddar, the Lolab, the Sind, and the Kagan glen, display a wealth of beauty unequalled elsewhere. Nor does this river wholly lose its association with beauty in the plains. Its very rich silt gives the lands on its banks the green charm of rich crops and pleasant trees.

The Chenab.—The Chenab (more properly Chinab or river of China) is the Asikni of the Vedas and the Akesines of the Greek historians. It is formed by the **union** of the Chandra **and** Bhaga, both of which rise in Lahul near the Baralacha pass. Having become the Chandra-bhaga the river flows through Pangi in Chamba and the south-east of Kashmir. Near Kishtwar it breaks through the Pir Panjal range, and thenceforwards receives the drainage of its southern slopes. At Akhnur it becomes navigable and soon after it enters the Panjab district of Sialkot. A little later it is joined from the west by the Tawf, the stream above which stands Jammu, the winter capital of Kashmir. The Chenab parts Sialkot and Gujranwala on the left bank from Gujrat and Shahpur on the right. At Wazirabad, near the point where Sialkot, Gujrat, and Gujranwala meet, it is crossed by the Alexandra railway bridge. Leaving Shahpur and Gujranwala behind, the Chenab flows through Jhang to its junction with the Jhelam at Trimmu. In this section there is a second railway bridge at Chund Bharwana. The united stream runs on under the name of Chenab to be joined on the north border of the Multan district by the Ravi and on its southern border by the Sutlej. Below its junction with the latter the stream is known as the Panjnad. In the plains the Chenab cannot be called an attractive river, and its silt is far inferior to that of the Jhelam.

The Ravi.—The Ravi was known to the writers of the Vedic hymns as the Parushni, but is called in classical Sanskrit Iravati, whence the Hydraotes of the Greek historians. It rises near the Rotang pass in Kangra, and flows north-west through the southern part of Chamba. Below the town of Chamba, it runs as a swift slaty-blue mountain stream, and here it is spanned by a fine bridge. Passing on to the north of the hill station of Dalhousie

it reaches the Kashmir border, and turning to the south-west flows along it to Basoli where Kashmir, Chamba, and the British district of Gurdaspur meet. At this point it is 2000 feet above the sea level. It now forms the boundary of Kashmir and Gurdaspur, and finally near Madhopur, where the head-works of the Bari Doab canal are situated, it passes into the Gurdaspur district. Shortly after it is joined from the north by a large torrent called the Ujh, which rises in the Jammu hills. After



Fig. 14. Fording the River at Lahore.

reaching the Sialkot border the Ravi parts that district first from Gurdaspur and then from Amritsar, and, passing through the west of Lahore, divides Montgomery and Lyallpur, and flowing through the north of Multan joins the Chenab near the Jhang border. In Multan there is a remarkable straight reach in the channel known as the Sidhnai, which has been utilized for the site of the head-works of a small canal. The Degh, a torrent which rises in the Jammu hills' and has a long course

through the Sidlkot and Gujranwala districts, joins the Ravi when in flood in the north of the Lyallpur district. But its waters will now be diverted into the river higher up in order to safeguard the Upper Chenab canal. Lahore is on the left bank of the Ravi. It is a mile from the cold weather channel, but in high floods the waters have often come almost up to the Fort. At Lahore the North Western Railway and the Grand Trunk Road are carried over the Ravi by masonry bridges. There is a second railway bridge over the Sidhnai reach in Multan. Though the Ravi, like the Jhelam, has a course of 450 miles, it has a far smaller catchment area, and is really a somewhat insignificant stream. In the cold weather the canal takes such a heavy toll from it that below Madhopur the supply of water is mainly drawn from the Ujh, and in Montgomery one may cross the bed dryshod for months together. The valley of the Ravi is far narrower than those of the rivers described in the preceding paragraphs, and the floods are most uncertain, but when they occur are of very great value.

The Bias.—The Bias (Sanskrit, Vipasa; Greek, Hyphasis) rises near the Rotang pass at a height of about 13,000 feet. Its head-waters are divided from those of the Ravi by the Bara Bangahal range. It flows for about sixty miles through the beautiful Kulu valley to Larji (3000 feet). It has at first a rapid course, but before it reaches Sultanpur (4000 feet), the chief village in Kulu, some thirty miles from the source, it has become, at least in the cold weather, a comparatively peaceful stream fringed with alder thickets. Heavy floods, however, sometimes cover fields and orchards with sand and boulders. There is a bridge at Manali (6100 feet), a very lovely spot, another below Nagar, and a third at Larji. Near Larji the river turns to the west down a bold ravine and becomes for a time the boundary between

Kulu and the Mandi State. Near the town of Mandi, where it is bridged, it bends again, and winds in a north-west and westerly direction through low hills in the south of Kangra till it meets the Siwaliks on the Hoshiyarpur border. In this reach there is a bridge of boats at Dera Gopipur on the main road from Jalandhar and Hoshiyarpur to Dharmsala. Elsewhere in the south of Kangra the traveller can cross without difficulty on



Fig. 15. Bias at Manali.

a small bed supported on inflated skins. Sweeping round the northern end of the Siwaliks the Bias, having after long parting again approached within about fifteen miles of the Ravi, turns definitely to the south, forming henceforth the dividing line between Hoshiyarpur and Kapiirthala (left bank) and Gurdaspur and Amritsar (right). Finally above the Harike ferry at a point where Lahore, Amritsar, Ferozepur, and Kapiirthala nearly meet, it falls into the Sutlej. The North Western

Railway crosses it by a bridge near the Bias station and at the same place there is a bridge of boats for the traffic on the Grand Trunk Road. The chief affluents are the Chakki, the torrent which travellers to Dharmsala cross by a fine bridge twelve miles from the rail-head at Pathankot, and the Black Bein in Hoshiarpur and Kapiirthala. The latter is a winding drainage channel, which starts in a swamp in the north of the Hoshiarpur district. The Bias has a total course of 390 miles. Only for about eighty miles or so is it a true river of the plains, and its floods do not spread far.

The Sutlej,—The Sutlej is the Shatadru of Vedic hymns and the Zaradros of Greek writers. The peasant of the Panjab plains knows it as the Nili or Ghara. After the Indus it is the greatest of Panjab rivers, and for its source we have to go back to the Manasarowar lakes in Tibet. From thence it flows for 200 miles in a north-westerly direction to the British frontier near Shipki. A little beyond the Spiti river brings it the drainage of the large tract of that name in Kangra and of part of Western Tibet. From Shipki it runs for forty miles in deep gorges through Kunawar in the Bashahr State to Chinf, a beautiful spot near the Wangtu bridge, where the Hindustan-Tibet road crosses to the left bank. A little below Chini the Baspa flows in from the south-east. The fall between the source and Chini is from 15,000 to 7500 feet. There is magnificent cliff scenery at Rogi in this reach. Forty miles below Chini the capital of Bashahr, Rampur, on the south bank, is only 3300 feet above sea level. There is a second bridge at Rampur, and from about this point the river becomes the boundary of Bashahr and Kulu, the route to which from Simla passes over the Luri bridge (2650 feet) below Narkanda. Beyond Lurf the Sutlej runs among low hills through several of the Simla Hill States. It pierces the Siwaliks

bears the name certainly passes beside the sacred sites of Thanesar and Pehowa. A small sandy torrent bearing the same name rises in the low hills in the north-east of the Ambdla district, but it is doubtful if its waters, which finally disappear into the ground, ever reach the Thanesar channel. That seems rather to originate in the overflow of a rice swamp in the plains, and in the cold weather the bed is usually dry. In fact, till the Sarusti receives above Pehowa the floods of the Markanda torrent, it is a most insignificant stream. The Markanda, when in flood, carries a large volume of water, and below the junction the small channel of the Sarusti cannot carry the tribute received, which spreads out into a shallow lake called the Sainsa *jhil*. This has been utilized for the supply of the little Sarusti canal, which is intended to do the work formerly effected in a rude way by throwing *bands* or embankments across the bed of the stream, and forcing the water over the surrounding lands. The same wasteful form of irrigation was used on a large scale on the Ghagar and is still practised on its upper reaches. Lower down earthen *bands* have been superceded by a masonry weir at Otu in the Hissar district. The northern and southern Ghagar canals, which irrigate lands in Hissar and Bikaner, take off from this weir.

Action of Torrents.—The Ghagar is large enough to exhibit all the three stages which a *cho* or torrent of intermittent flow passes through. Such a stream begins in the hills with a well-defined boulder-strewn bed, which is never dry. Reaching the plains the bed of a *cho* becomes a wide expanse of white sand, hardly below the level of the adjoining country, with a thread of water passing down it in the cold weather. But from time to time in the rainy season the channel is full from bank to bank and the waters spill far and wide over the fields. Sudden spates sometimes sweep away men and cattle

before they can get across. If, as in Hoshyarpur, the *chos* flow into a rich plain from hills composed of friable sandstone and largely denuded of tree-growth, they are in their second stage most destructive. After long delay an Act was passed in 1900, which gives the government large powers for the protection of trees in the Siwaliks and the reclamation of torrent beds in the plains. The process of recovery cannot be rapid, but a measure of success has already been attained. It must not be supposed that the action of *chos* in this second stage is uniformly bad. Some carry silt as well as sand, and the very light loam which the great Markanda *cho* has spread over the country on its banks is worth much more to the farmer than the stiff clay it has overlaid. Many *chos* do not pass into the third stage, when all the sand has been dropped, and the bed shrinks into a narrow ditch-like channel with steep clay banks. The inundations of torrents like the Degh and the Ghagar after this stage is reached convert the soil into a stiff impervious clay, where flood-water will lie for weeks without being absorbed into the soil. In Karnal the wretched and fever-stricken tract between the Ghagar and the Sarusti known as the Naili is of this character.

The Jamna.—The Jamna is the Yamuna of Sanskrit writers. * Ptolemy's and Pliny's versions, Diamouna and Jomanes, do not deviate much from the original. It rises in the Kumaon Himalaya, and, where it first meets the frontier of the Simla Hill States, receives from the north a large tributary called the Tons. Henceforth, speaking broadly, the Jamna is the boundary of the Panjab and the United Provinces. On the Panjab bank are from north to south the Sirmuir State, Ambala, Karnal, Rohtak, Delhi, and Gurgaon. The river leaves the Panjab where Gurgaon and the district of Mathra, which belongs to the United Provinces, meet, and finally

falls into the Ganges at Allahabad. North of Mathra Delhi is the only important town on its banks. The Jamna is crossed by railway bridges between Delhi and Meerut and between Ambala and Saharanpur.

Changes in Rivers.—Allusion has already been made to the changes which the courses of Panjab rivers are subject to in the plains. The Indus below Kalabagh once ran through the heart of what is now the Thai desert. We know that in 1245 A.D. Multan was in the Sind Sagar Doab between the Indus and the united streams of the Jhelam, Chenab, and Ravi. The Bias had then no connection with the Sutlej, but ran in a bed of its own easily to be traced to-day in the Montgomery and Multan districts, and joined the Indus between Multan and Uch. The Sutlej was still flowing in the Hakra bed. Indeed its junction with the Bias near Harike, which probably led to a complete change in the course of the Bids, seems only to have taken place within the last 150 years¹.

¹ Raverty's "The Mehran of Sind and its Tributaries," in *Journal of Asiatic Society of Bengal*, 1897.

CHAPTER IV

GEOLOGY AND MINERAL RESOURCES

Extent of Geological Record.—Although the main part of the Panjab plain is covered by a mantle of comparatively recent alluvium, the provinces described in this book display a more complete record of Indian geological history than any other similar area in the country. The variety is so great that no systematic or sufficient description could be attempted in a short chapter, and it is not possible, therefore, to do more in these few pages than give brief sketches of the patches of unusual interest.

Aravalli System.—In the southern and south-eastern districts of the Pan jab there are exposures of highly folded and metamorphosed rocks which belong to the most ancient formations in India. These occupy the northern end of the Aravalli hills, which form but a relic of what must have been at one time a great mountain range, stretching roughly south-south-west through Rajputana into the Bombay Presidency. The northern ribs of the Aravalli series disappear beneath alluvial cover in the Delhi district, but the rocks still underlie the plains to the west and north-west, their presence being revealed by the small promontories that peep through the alluvium near the Chenab river, standing up as small hills near Chiniot in the Shahpur, Jhang, and Lyallpur districts.

The Salt Range in the Jhelam and Shahpur districts, with a western continuation in the Mianwali district to and beyond the Indus, is the most interesting part of the Panjab to the geologist. It contains notable records of three distinct eras in geological history. In association with the well-known beds of rock-salt, which are being extensively mined at Kheora, occur the most ancient fossiliferous formations known in India, corresponding in age with the middle and lower part of the Cambrian system of Europe. These very ancient strata immediately overlie the red marls and associated rock-salt beds, and it is possible that they have been thrust over bodily to occupy this position, as we have no parallel elsewhere for the occurrence of great masses of salt in formation older than the Cambrian.

The second fragment of geological history preserved in the Salt Range is very much younger, beginning with rocks which were formed in the later part of the Carboniferous period. The most remarkable feature in this fragment is a boulder-bed, resting unconformably on the Cambrian strata and including boulders of various shapes and sizes, which are often faceted and striated in a way indicative of glacial action. Several of the boulders belong to rocks of a peculiar and unmistakable character, such as are found *in situ* on the western flanks of the Aravalli Range, some 750 miles to the south. The glacial conditions which gave rise to these boulder-beds were presumably contemporaneous with those that produced the somewhat similar formation lying at the base of the great coal-bearing system in the Indian peninsula. The glacial boulder-bed thus offers indirect evidence as to the age of the Indian coal-measures, for immediately above this bed in the Salt Range there occur sandstones containing fossils which have affinities with the Upper Carboniferous formations of Australia,

and on these sandstones again there lie alternations of shales and limestones containing an abundance of fossils that are characteristic of the Permo-Carboniferous rocks of Russia. These are succeeded by an apparently conformable succession of beds of still younger age, culminating in a series of shales, sandstones, and limestones of unmistakably Triassic age.

There is then an interruption in the record, and the next younger series preserved occurs in the western part of the Salt Range as well as in the hills beyond the Indus. This formation is of Upper Jurassic age, corresponding to the well-known beds of marine origin preserved in Cutch. Then follows again a gap in the record, and the next most interesting series of formations found in the Salt Range become of great importance from the economic as well as from the purely scientific point of view; these are the formations of Tertiary age.

The oldest of the Tertiary strata include a prominent limestone containing Nummulitic fossils, which are characteristic of these Lower Tertiary beds throughout the world. Here, as in many parts of North-Western India, the Nummulitic limestones are associated with coal which has been largely worked. The country between the Salt Range plateau and the hilly region away to the north is covered by a great stretch of comparatively young Tertiary formations, which were laid down in fresh water after the sea had been driven back finally from this region. The incoming of fresh-water conditions was inaugurated by the formation of beds which are regarded as equivalent in age to those known as the Upper Nari in Sind and Eastern Baluchistan, but the still later deposits, belonging to the well-known Siwalik series, are famous on account of the great variety and large size of many of the vertebrate fossil remains which they have yielded. In these beds to the north

of the Salt Range there have been found remains of *Dinotherium*, forms related to the ancestors of the giraffe and various other mammals, some of them, like the *Sivatherium*, *Mastodon*, and *Stegodon*, being animals of great size. On the northern side of the Salt Range three fairly well-defined divisions of the Siwalik series have been recognised, each being conspicuously fossiliferous—a feature that is comparatively rare in the Siwalik hills further to the south-east, where these rocks were first studied. The Siwalik series of the Salt Range are thus so well developed that this area might be conveniently regarded as the type succession for the purpose of correlating isolated fragmentary occurrences of the same general series in northern and western India. To give an idea as to the age of these rocks, it will be sufficient to mention that the middle division of the series corresponds roughly to the well-known deposits of *Pikermi* and *Samos*.

Kashmir deserves special mention, as it is a veritable paradise for the geologist. Of the variety of problems that it presents one might mention the petrological questions connected with the intrusion of the great masses of granite, and their relation to the slates and associated metamorphic rocks. Of fossiliferous systems there is a fine display of material ranging in age from Silurian to Upper Trias, and additional interest is added by the long-continued volcanic eruptions of the "Panjal trap." Students of recent phenomena have at their disposal interesting problems in physiography, including a grand display of glaciers, and the extensive deposits of so-called *Rarewas*, which appear to have been formed in drowned valleys, where the normal fluvial conditions are modified by those characteristic of lakes. The occurrence of sapphires in Zaskar gives the State also an interest to the mineralogist and connoisseur of gem-stones.

Of this kaleidoscopic assemblage of questions the ones of most immediate interest are connected with the Silurian-Trias succession in the Kashmir valley, for here we have a connecting-link between the marine formations of the Salt Range area and those which are preserved in greater perfection in Spiti and other parts of the Tibetan highlands, stretching away to the south-east at the back of the great range of crystalline snow-covered peaks.

In this interesting part of Kashmir the most important feature to Indian geologists is the occurrence of plant remains belonging to genera identical with those that occur in the lower part of the great coal-bearing formation of Peninsular India, known as the Gondwana system. Until these discoveries were made in Kashmir about ten years ago the age of the base of the Gondwanas was estimated only on indirect evidence, partly due to the assumption that glacial conditions in the Salt Range and those at the base of the Gondwanas were contemporaneous, and partly due to analogy with the coal measures of Australia and South Africa. In Kashmir the characteristic plant remains of the Lower Gondwanas are found associated with marine fossils in great abundance, and these permit of a correlation of the strata with the upper part of the Carboniferous system of the European standard stratigraphical scale.

Kashmir seems to have been near the estuary of one of the great rivers that formerly flowed over the ancient continent of *Gondwana*land (when India and South Africa formed parts of one continental mass) into the great Eurasian Ocean known as *Tethys*. As the deposits formed in this great ocean give us the principal part of our data for forming a standard stratigraphical scale, the plants which were carried out to sea become witnesses of the kind of flora that flourished during the

main Indian coal period ; they thus enable us with great precision to fix the position of the fresh-water Gondwanas in comparison with the marine succession.

Spiti.—With a brief reference to one more interesting patch among the geological records of this remarkable region, space will force us to pass on to consideration of minerals of economic value. The line of snow-covered peaks, composed mainly of crystalline rocks and forming a core to the Himalaya in a way analogous to the granitic core of the Alps, occupies what was once apparently the northern shore of Gondwanaland, and to the north of it there stretched the great ocean of Tethys, covering the central parts of Asia and Europe, one of its shrunken relics being the present Mediterranean Sea. The bed of this ocean throughout many geological ages underwent gradual depression and received the sediments brought down by the rivers from the continent which stretched away to the south. The sedimentary deposits thus formed near the shore-line or further out in deep water attained a thickness of well over 20,000 feet, and have been studied in the *tahsil* of Spiti, on the northern border of Kumaon, and again on the eastern Tibetan plateau to the north of Darjeeling. A reference to the formations preserved in Spiti may be regarded as typical of the geological history and the conditions under which these formations were produced.

Succession of Fossiliferous Beds.—In age the fossiliferous beds range from Cambrian right through to the Tertiary epoch; between these extremes no single period was passed without leaving its records in some part of the great east-to-west Tibetan basin. At the base of the whole succession there lies a series of schists which have been largely metamorphosed, and on these rest the oldest of the fossiliferous series, which, on account of their occurring in the region of snow, has been named the *h*

56 GEOLOGY AND MINERAL RESOURCES [CH.

upper part of the Haimanta system has been found to contain the characteristic trilobites of the Cambrian period of Europe. Over this system lie beds which have yielded in succession Ordovician and Silurian fossils, forming altogether a compact division which has been distinguished locally as the *Muth system*. Then follows the so-called *Kandwar system*, which introduces Devonian conditions, followed by fossils characteristic of the well-known mountain limestone of Europe.

Then occurs a break in the succession which varies in magnitude in different localities, but appears to correspond to great changes in the physical geography which widely affect the Indian region. This break corresponds roughly to the upper part of the Carboniferous system of Europe, and has been suggested as a datum line for distinguishing in India an older group of fossiliferous systems below (formed in an area that has been distinguished by the name *Dravidian*), from the younger group above, which has been distinguished by the name *Aryan*.

During the periods that followed this interruption the bed of the great Eurasian Ocean seems to have subsided persistently though intermittently. As the various sediments accumulated the exact position of the shore-line must have changed to some extent to give rise to the conditions favourable for the formation at one time of limestone, at another of shale and at other times of sandy deposits. The whole column of beds, however, seems to have gone on accumulating without any folding movements, and they are consequently now found lying apparently in perfect conformity stage upon stage, from those that are Permian in age at the base, right through the Mesozoic group, till the time when Tertiary conditions were inaugurated and the earth movements began which ultimately drove back the ocean and raised the bed, with its accumulated load

of sediments, into the great folds that now form the Himalayan Range. This great mass of Aryan strata includes an enormous number of fossil remains, giving probably a more complete record of the gradual changes that came over the marine fauna of Tethys than any other area of the kind known. One must pass over the great number of interesting features still left unmentioned, including the grand architecture of the Sub-Himalaya and the diversity of formations in different parts of the Frontier Province ; for the rest of the available space must be devoted to a brief reference to the minerals of value.

Rock-salt, which occurs in abundance, is possibly the most important mineral in this area. The deposits most largely worked are those which occur in the well-known Salt Range, covering parts of the districts of Jhelam, Shahpur, and Mianwali. Near the village of Kheora the main seam, which is being worked in the Mayo mines, has an aggregate thickness of 550 feet, of which five seams, with a total thickness of 275 feet, consist of salt pure enough to be placed on the table with no more preparation than mere pulverising. The associated beds are impregnated with earth, and in places there occur thin layers of potash and magnesian salts. In this area salt quarrying was practised for an unknown period before the time of Akbar, and was continued in a primitive fashion until it came under the control of the British Government with the occupation of the Panjab in 1849. In 1872 systematic mining operations were planned, and the general line of work has been continued ever since, with an annual output of roughly **100,000 tons.**

Open quarries for salt are developed a short distance to the east-north-east of Kalabagh on the Indus, and similar open work is practised near Kohat in the North

West Frontier Province, where the quantity of salt may be regarded as practically inexhaustible. At Bahadur Khel the salt lies at the base of the Tertiary series, and can be traced for a distance of about eight miles with an exposed thickness of over 1000 feet, sometimes standing up as hills of solid salt above the general level of the plains. In this area the production is naturally limited by want of transport and the small local demand, the total output from the quarries being about 16,000 tons per annum. A small quantity of salt (generally about 4000 tons a year), is raised also from open quarries in the Mandi State, where the rock-salt beds, distinctly impure and earthy, lie near the junction between Tertiary formations and the older unfossiliferous groups.

Coal occurs at numerous places in association with the Nummulitic limestones of Lower Tertiary age, in the Panjab, in the North West Frontier Province, and in the Jammu division of Kashmir. The largest output has been obtained from the Salt Range, where mines have been opened up on behalf of the North Western Railway. The mines at Dandot in the Jhelam district have considerable fluctuations in output, which, however, for many years ranged near 50,000 tons. These mines, having been worked at a financial loss, were finally abandoned by the Railway Company in 1911, but a certain amount of work is still being continued by local contractors. At Bhaganwala, 19 miles further east, in the adjoining district of Shahpur, coal was also worked for many years for the North Western State Railway, but the maximum output in any one year never exceeded 14,000 tons, and in 1900, owing to the poor quality of material obtained, the collieries were closed down. Recently, small outcrop workings have been developed in the same formation further west on the southern scarp of the Salt Range at Tejuwala in the Shahpur district.

Gold to a small amount is washed from the gravel of the Indus and some other rivers by native workers, and large concessions have been granted for systematic dredging, but these enterprises have not yet reached the commercially paying stage.

Other Metals.—Prospecting has been carried on at irregular intervals in Kulu and along the corresponding belt of schistose rocks further west in Kashmir and Chitral. The copper ores occur as sulphides along certain bands in the chloritic and micaceous schists, similar in composition and probably in age to those worked further east in Kumaon, in Nipal, and in Sikkim. In Lahul near the Shigri glacier there is a lode containing antimony sulphide with ores of zinc and lead, which would almost certainly be opened up and developed but for the difficulty of access and cost of transport to the only valuable markets.

Petroleum springs occur among the Tertiary formations of the Panjab and Biluchistan, and a few thousand gallons of oil are raised annually. Prospecting operations have been carried on vigorously during the past two or three years, but no large supplies have so far been proved. The principal oil-supplies of Burma and Assam have been obtained from rocks of Miocene age, like those of Persia and the Caspian region, but the most promising "shows" in North West India have been in the older Nummulitic formations, and the oil is thus regarded by some experts as the residue of the material which has migrated from the Miocene beds that probably at one time covered the Nummulitic formations, but have since been removed by the erosive action of the atmosphere.

Alum is manufactured from the pyritous shales of the Mian wall district, the annual output being generally about 200 to 300 tons. Similar shales containing pyrites are known to occur in other parts of this area, and possibly the industry might be considerably extended, as the

annual requirements of India, judged by the import returns, exceed ten times the native production of alum.

Borax is produced in Ladakh and larger quantities are imported across the frontier from Tibet. In the early summer one frequently meets herds of sheep being driven southwards across the Himalayan passes, each sheep carrying a couple of small saddle-bags laden with borax or salt, which is bartered in the Panjab bazars for Indian and foreign stores for the winter requirements of the snow-blocked valleys beyond the frontier.

Sapphires.—The sapphires of Zanskar have been worked at intervals since the discovery of the deposit in 1881, and some of the finest stones in the gem market have been obtained from this locality, where work is, however, difficult on account of the great altitude and the difficulty of access from the plains.

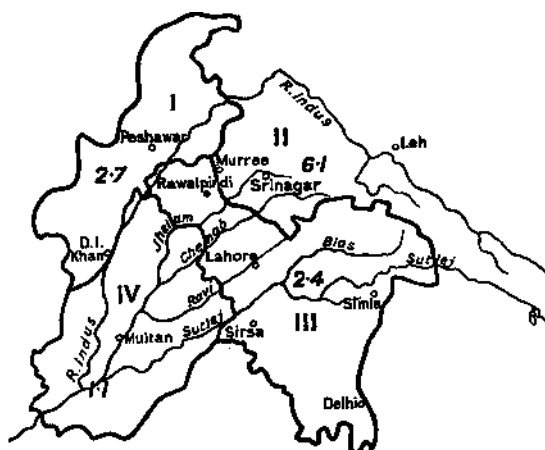
Limestone.—Large deposits of Nummulitic limestone are found in the older Tertiary formations of North-West India. It yields a pure lime and is used in large quantities for building purposes. The constant association of these limestones with shale beds, and their frequent association with coal, naturally suggest their employment for the manufacture of cement; and special concessions have recently been given by the Panjab Government with a view of encouraging the development of the industry. The nodular impure limestone, known generally by the name of *kankar*, contains sufficient clay to give it hydraulic characters when burnt, and much cement is thus manufactured. The varying composition of *kankar* naturally results in a product of irregular character, and consequently cement so made can replace Portland cement only for certain purposes.

Slate is quarried in various places for purely local use. In the Kangra valley material of very high quality is obtained and consequently secures a wide distribution,

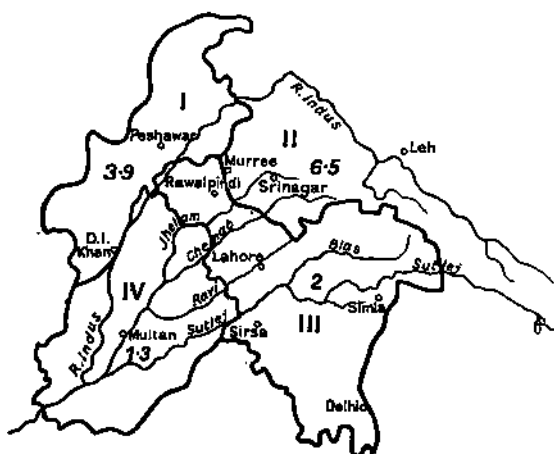
limited, however, by competition with cheaply made tiles.

Gypsum occurs in large quantities in association with the rock-salt of the Salt Range, but the local demand is small. There are also beds of potash and magnesian salts in the same area, but their value and quantity have not been thoroughly proved.

January—February.



March to May.

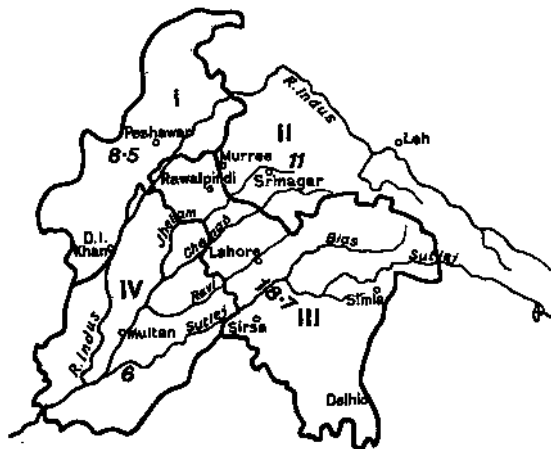


Normal Rainfall.

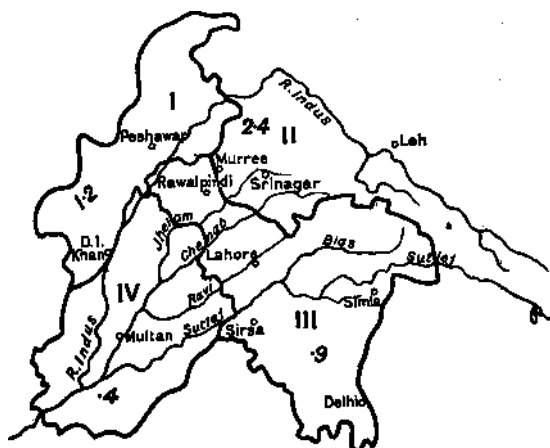
I. N.W.F. Province.	II. Kashmir.
III. Panjab E. and N.	IV. Panjab S.W.

Fig. 16. Rainfall of different Seasons.

June to September.



October to December.



Normal Rainfall.

I. N.W.F. Province.	II. Kashmir.
III. Panjab E. and N.	IV. Panjab S.W.

Fig. 16 (cont). Rainfall of different Seasons.

CHAPTER V

CLIMATE

Types of Climate.—The climate of the Pan jab plains is determined by their distance from the sea and the existence of formidable mountain barriers to the north and west. The factor of elevation makes the climate of the Himalayan tracts very different from that of the plains. Still more striking is the contrast between the Indian Himalayan climate and the Central Asian Trans-Himalayan climate of Spiti, Lahul, and Ladakh.

Zones.—A broad division into six zones may be recognised :

A i. Trans-Himalayan.

B 2. Himalayan.

C. Plains 3. North Western.

4. Submontane.

5. Central and South Eastern.

6. South Western.

Trans-Himalayan Climate.—Spiti, Lahul, and Ladakh are outside the meteorological influences which affect the rest of the Indian Empire. The lofty ranges of the Himalaya interpose an almost insurmountable barrier between them and the clouds of the monsoon. The rainfall is extraordinarily small, and, considering the elevation of the inhabited parts, 10,000 to 14,000 feet, the snowfall there is not heavy. The air is intensely dry and clear, and the daily and seasonal range of temperature is extreme. Leh, the capital of Ladakh (11,500 feet), has an average

rainfall (including snow) of about 3 inches. The mean temperature is 43⁰ Fahr., varying from 19⁰ in January to 64⁰ in July. But these figures give no idea of the rigours of the severe but healthy climate. The daily range is from 25 to 30 degrees, or double what we are accustomed to in England. Once 17⁰ below zero was

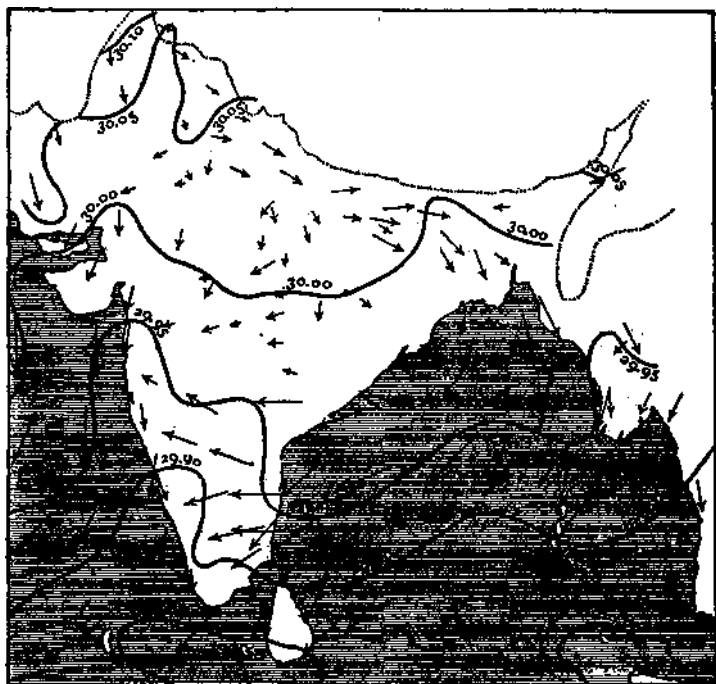


Fig. 17. Average Barometric and Wind Chart for January.

recorded. In the rare dry clear atmosphere the power of the solar rays is extraordinary. " Rocks exposed to the sun may be too hot to lay the hand upon at the same time that it is freezing in the shade."

The Indian Zones—Meteorological factors.—The distribution of pressure in India, determined mainly by

changes of temperature, and itself determining the direction of the winds and the character of the weather, is shown graphically in figures 17 and 18. The winter or north-east monsoon does not penetrate into the Panjab, where light westernly and northerly winds



Fig. 18. Average Barometric and Wind Chart for July.

prevail during the cold season. What rain is received is due to land storms originating beyond the western frontier. The branch of the summer or south-west monsoon which chiefly affects the Pan jab is that which blows up the Bay of Bengal. The rain-clouds striking the Eastern Himalaya are deflected to the¹ west and forced up the

Gangetic plain by south-western winds. The lower ranges of the Panjab Himalaya receive in this way very heavy downpours. The rain extends into the plains, but exhausts itself and dies away pretty rapidly to the south and west. The Bombay branch of the monsoon mostly spends itself on the Ghats and in the Deccan. But a part of it penetrates from time to time to the south-east Panjab, and, if it is sucked into the Bay current, the result is widespread rain.

Himalayan Zone.—The impressions which English people get of the climate of the Himalaya, or in Indian phrase "the Hills" are derived mainly from stations like Simla and Murree perched at a height of from 6500 to 7500 feet on the outer ranges. The data of meteorologists are mainly taken from *the* same localities. Places between 8000 and 10,000 feet in height and further from the plains enjoy a finer climate, being both cooler and drier in summer. But they are less accessible, and weakly persons would find the greater rarity of the air trying.

In the first fortnight of April the plains become disagreeably warm, and it is well to take European children to the Hills. The Panjab Government moves to Simla in the first fortnight of May. By that time Simla is pretty warm in the middle of the day, but the nights are pleasant. The mean temperature of the 24 hours in May and June is 65° or 66° , the mean maximum and minimum being 78° and 59° . Thunderstorms with or without hail are not uncommon in April, May, and June. In a normal year the monsoon clouds drift up in the end of June, and the next three months are "the Rains." Usually it does not rain either all day or every day, but sometimes for weeks together Simla is smothered in a blanket of grey mist. Normally the rain comes in, bursts with longer or shorter breaks between. About

the third week of September the rains often cease quite suddenly, the end being usually proclaimed by a thunder-storm. Next morning one wakes to a new heaven and a new earth, a perfectly cloudless sky, and clean, crisp, cool air. This ideal weather lasts for the next three months. Even in December the days are made pleasant by bright sunshine, and the range of temperature is much less than in the plains. In the end of December or beginning of January the night thermometer often falls lower at Ambala and Rawalpindi than at Simla and Murree. After Christmas the weather becomes broken, and in January and February falls of snow occur. It is a disagreeable time, and English residents are glad to descend to the plains. In March also the weather is often unsettled. The really heavy falls of snow occur at levels much higher than Simla. These remarks apply *mutatis mutandis* to Dharmsala, Dalhousie, and Murree. Owing to its position right under a lofty mountain wall Dharmsala is a far wetter place than Simla. Murree gets its monsoon later, and the summer rainfall is a good deal lighter. In winter it has more snow, being nearer the source of origin of the storms. Himalayan valleys at an elevation of 5000 feet, such as the Vale of Kashmir, have a pleasant climate. "The mean temperature of Srinagar (5255 feet) varies from 33⁰ in January to 75⁰ in July, when it is unpleasantly hot, and Europeans often move to Gulmarg. Kashmir has a heavy snowfall even in the Jhelam valley. Below 4000 feet, especially in confined river valleys the Himalayan climate is often disagreeably hot and stuffy.

Climate of the Plains.—The course of the seasons is the same in the plains. The jaded resident finds relief when the rains cease in the end of September. The days are still warm, but the skies are clear, the air

dry, and the nights cool. November is rainless and in every way a pleasant month. The clouds begin to gather before Christmas, but rain often holds off till January. Pleasant though the early months of the cold weather are, they lay traps for the unwary. In October and November the daily range of temperature is very large, exceeding 30° , and the fall at sunset very sudden. Care is needed to avoid a chill and the fever that follows. Clear and dry though the air is, the blue of the skies is pale owing to a light dust haze in the upper atmosphere. For the same reason the Himalayan snows except after rain are veiled from dwellers in the plains at a distance of 30 miles from the foot-hills. The air in these months before the winter rains is wonderfully still. In the three months after Christmas the Panjab is the pathway of a series of small storms from the west, preceded by close weather and occurring usually at intervals of a few weeks. After a day or two of wet weather the sky clears, and the storm is followed by a great drop in the temperature. The traveller who shivers after a January rainstorm finds it hard to believe that the Panjab plain is a part of the hottest region of the Old World which stretches from the Sahara to Delhi. If he had to spend the period from May to July there he would have small doubts on the subject. The heat begins to be unpleasant in April, when hot western winds prevail. An occasional thunderstorm with hail relieves the strain for a little. The warmest period of the year is May and June. But the intense dry heat is healthier and to many less trying than the mugginess of the rainy season. The dust-storms which used to be common have become rarer and lighter with the spread of canal irrigation in the western Panjab. The rains ought to break at Delhi in the end of June and at Lahore ten days or a fortnight later. There is often a long break when

the climate is particularly trying. The nights are terribly hot. The outer air is then less stifling than that of the house, and there is the chance of a little comparative coolness shortly before dawn. Many therefore prefer to sleep on the roof or in the verandah. September, when the rains slacken, is a muggy, unpleasant, and unhealthy month. But in the latter half of it cooler nights give promise of a better time.

Special features of Plain Zones.—The submontane zone has the most equable and the pleasantest climate in the plains. It has a rainfall of from 30 to 40 inches, five-sevenths or more of which belongs to the monsoon period (June—September). The north-western area has a longer and colder winter and spring. In the end of December and in January the keen dry cold is distinctly trying. The figures in Statement I, for Rawalpindi and PesMwar, are not very characteristic of the zone as a whole. The average of the rainfall figures, 13 inches for Peshawar and 32 for Rawalpindi, would give a truer result. The monsoon rains come later and are much less abundant than in the submontane zone. Their influence is very feeble in the western and south-western part of the area. On the other hand the winter rains are heavier than in any other part of the province. Delhi and Lahore represent the extreme conditions of the central and south-eastern plains. The latter is really on the edge of the dry south-western area. The eastern districts of the zone have a shorter and less severe cold weather than the western, an earlier and heavier monsoon, but scantier winter rains. The total rainfall varies from 16 to 30 inches. The south-western zone, with a rainfall of from 5 to 15 inches, is the driest part of India proper except northern Sindh and western Rajputana. Neither monsoon current affects it much. At Multan there are only about fifteen days in the whole year on which any rain falls.

CHAPTER VI

HERBS, SHRUBS, AND TREES

Affinities of Pan jab Flora.—It is hopeless to describe except in the broadest outline the flora of a tract covering an area of 250,000 square miles and ranging in altitude from a few hundred feet to a height 10,000 feet above the limit of flowering plants. The nature of the vegetation of any tract depends on rainfall and temperature, and only secondarily on soil. A desert is a tract with a dry substratum and dry air, great heat during some part of the year, and bright sunshine. The soil may be loam or sand, and as regards vegetation a sandy desert is the worst owing to the rapid drying up of the subsoil after rain. In the third of the maps appended to Schimper's *Plant Geography* by far the greater part of the area dealt with in this book is shown as part of the vast desert extending from the Sahara to Manchuria. Seeing that the monsoon penetrates into the province and that it is traversed by large snow-fed rivers the Panjab, except in parts of the extreme western and south-western districts, is not a desert like the Sahara or Gobi, and Schimper recognised this by marking most of the area as semi-desert. Still the flora outside the Hills and the sub-montane tract is predominantly of the desert type, being xerophilous or drought-resisting. The adaptations which enable plants to survive in a tract deficient in moisture are of various kinds. The roots may be greatly developed to enable them to tap the subsoil moisture,

the leaves may be reduced in size, converted into thorns, or entirely dispensed with, in order to check rapid evaporation, they may be covered with silky or felted hairs, a modification which produces the same result, or their internal tissue may be succulent or mucilaginous. In the plants of the Panjab plains there is no difficulty in recognising these features of a drought-resisting flora. Schimper's map shows in the north-east of the area a wedge thrust in between the plains' desert and the dry elevated alpine desert cut off from the influence of the monsoon by the lofty barrier of the Inner Himalaya. This consists of two parts, monsoon forest, corresponding roughly with the Himalayan area Cis Ravi above the 5000 feet contour, and dry woodland of a semi-tropical stamp, consisting of the adjoining foot-hills and sub-montane tract. This wedge is in fact treated as part of the zone, which in the map (after Drude) prefixed to Willis' *Manual and Dictionary of the Flowering Plants and Ferns*, is called Indo-Malayan, and which embraces the Malayan Archipelago and part of North Australia, Burma, and practically the whole of India except the Panjab, Sindh, and Rajputana. In Drude's map the three countries last mentioned are included in a large zone called "the Mediterranean and Orient/' This is a very broad classification, and in tracing the relationships of the Panjab flora it is better to treat the desert area of North Africa, which in Tripoli and Egypt extends to the coast, apart from the Mediterranean zone. It is a familiar fact that, as we ascend lofty mountains like those of the Himalaya, we pass through belts or regions of vegetation of different types. The air steadily becomes rarer and therefore colder, especially at night, and at the higher levels there is a marked reduction in the rainfall. When the alpine region, which in the Himalaya may be taken as beginning at 11,000 feet, is reached,

the plants have as a rule bigger roots, shorter stems, smaller leaves, but often larger and more brilliantly coloured flowers. These are adaptations of a drought-resisting kind.

Regions.—In this sketch it will suffice to divide the tract into six regions :

Plains i. Panjab dry plain.

2. Salt Range and North West Plateau, from the frontier to Pabbi Hills.

3. Submontane Hills on east bank of Jhelam.

Hills 4. Sub-Himalaya, 2000-5000 feet.

5. Temperate Himalaya, 5000-11,000 feet.

6. Alpine Himalaya, 11,000-16,000 feet.

Of course a flora does not fit itself into compartments, and the changes of type are gradual.

Panjab Dry Plain.—The affinities of the flora of the Panjab plains south of the Salt Range and the submontane tract are, especially in the west, with the desert areas of Persia, Arabia, and North Africa, though the spread of canal irrigation is modifying somewhat the character of the vegetation. The soil and climate are unsuited to the growth of large trees, but adapted to scrub jungle of a drought-resisting type, which at one time covered very large areas from the Jamna to the Jhelam. The soil on which this sparse scrub grew is a good strong loam, but the rainfall was too scanty and the water-level too deep to admit of much cultivation outside the valleys of the rivers till the labours of canal engineers carried their waters to the uplands. East of the Sutlej the Bikaner desert thrusts northwards a great wedge of sandy land which occupies a large area in Bahawalpur, Hissar, Ferozepur, and Patiala. Soil of this description is free of forest growth, and the monsoon rainfall in this part of the province is sufficient to encourage an easy, but very precarious, cultivation of autumn

millets and pulses. The great Thai desert to the south of the Salt Range between the valleys of the Jhelam and the Indus has a similar soil, but the scantiness of the rainfall has confined cultivation within much narrower limits. Between the Sutlej and the Jhelam the uplands between the river valleys are known locally as Bars. The largest of the truly indigenous trees of the Panjab plains are the *fardsh* (*Tamarix articulata*) and the thorny *kikar* (*Acacia Arabica*). The latter yields excellent wood for agricultural implements, and fortunately it grows well in sour soils. Smaller thorny acacias are the *nimbar* or *raunj* (*Acacia leucophloea*) and the *khair* (*Acacia Senegal*). The dwarf tamarisk, *pilchi* or *jhao* (*Tamarix dioica*), grows freely in moist sandy soils near rivers. The scrub jungle consists mostly of *jand* (*Prosopis spicigera*), a near relation of the Acacias, *jdl* or *van* (*Salvadora oleoides*), and the coral-flowered *karil* or leafless caper (*Capparis aphylla*). All these show their desert affinities, the *jand* by its long root and its thorns, the *jal* by its small leathery leaves, and the *karil* by the fact that it has managed to dispense with leaves altogether. The *jand* is a useful little tree, and wherever it grows the natural qualities of the soil are good. The sweetish fruit of the *jal*, known as *pilu*, is liked by the people, and in famines they will even eat the berries of the leafless caper. Other characteristic plants of the Panjab plains are under Leguminosae, the *kip* (*Crotalaria burhia*), two *Farsetias* (*farid ki butt*), and the *jawdsa* or camel thorn (*Alhagi camelorum*), practically leafless, but with very long and stout spines; under Capparidaceae several *Cleomes*, species of *Corchorus* (*Tiliaceae*), under *Zygophyllaceae* three Mediterranean genera, *Tribulus*, *Zygophyllum*, and *Fagonia*, under *Solanaceae* several *Solanums* and *Withanias*, and various *salsolaceous* *Chenopods* known as *Idna*.

In the sandier tracts the *ak* (*Calotropis procera*, N.O. Asclepiadaceae), the *harmal* (*Peganum harmala*, N.O. Rutaceae), and the colocynth gourd (*Citrullus colocynthis*, N.O. Cucurbitaceae), which, owing to the size of its roots, manages to flourish in the sands of African and Indian deserts, grow abundantly. Common weeds of cultivation are *Fumaria parviflora*, a near relation of the English fumitory, *Silene conoidea*, and two *Spergulas*



Fig. 19. Banian or Bor trees.

(Caryophyllaceae), and *Sisymbrium Irio* "(Cruciferae). A curious little Orchid, *Zeuxine sulcata*, is found growing among the grass on canal banks. The American yellow poppy, *Argemone Mexicana*, a noxious weed, has unfortunately established itself widely in the Panjab plain. Two trees of the order Leguminosae, the *shisham* or *tali* (*Dalbergia Sissoo*) and the *siris* (*Albizzia lebbek*), are commonly planted on Panjab roads. The true home

of the former is in river beds in the low hills or in ravines below the hills. But it is a favourite tree on roads and near wells throughout the province, and deservedly so, for it yields excellent timber. The *siris* on the other hand is an untidy useless tree. The *kikar* might be planted as a roadside tree to a greater extent. Several species of figs, especially the *pipal* (*Ficus religiosa*) and *bor* or banian (*Ficus Indica*) are popular trees.

Salt Range and North-West Plains.—Our second region may be taken as extending from the Pabbi hills on the east of the Jhelam in Gujrat to our administrative boundary beyond the Indus, its southern limit being the Salt Range. Here the flora is of a distinctly Mediterranean type. Poppies are as familiar in Rawalpindi as they are in England or Italy, and *Hypecoum procumbens*, a curious Italian plant of the same order, is found in Attock. The abundance of Crucifers is also a Mediterranean feature. *Eruca sativa*, the oil-seed known as *taramira* or *jamidn*, which sows itself freely in waste land and may be found growing even on railway tracks in the Rawalpindi division, is an Italian and Spanish weed. *Malcolmia strigosa*, which spreads a reddish carpet over the ground, and *Malcolmia Africana* are common Crucifers near Rawalpindi. The latter is a Mediterranean species. The Salt Range genera *Diplotaxis* and *Moricandia* are Italian, and the peculiar *Notoceras Canadensis* found in Attock is also a native of the Canary Islands. Another order, Boraginaceae, which is very prominent in the Mediterranean region, is also important in the North-West Pan jab, though the showier plants of the order are wanting. One curious Borage, *Arnebia Griffithii*, seems to be purely Asiatic. It has five brown spots on its petals, which fade and disappear in the noonday sunshine. These are supposed to be drops of sweat which fell from Muhammad's forehead, hence the

plant is called *paighambari phul* or the prophet's flower. Among Composites Calendulas and *Carthamus oxyacantha* or the *pohli*, a near relation of the *Carthamus* which yields the saffron dye, are abundant. Both are common Mediterranean genera. *Silybum Marianum*, a handsome thistle with large leaves mottled with white, extends from Britain to Rawalpindi. Interesting species are *Tulipa stellata* and *Tulipa chrysantha*. The latter is a Salt Range plant, as is the crocus-like *Merendera Persica*, and the yellow *Iris Aitchisoni*. A curious plant found in the same hills is the cactus-like *Boucerosia* (N.O. Asclepiadaceae), recalling to botanists the more familiar *StapeHas* of the same order. Another leafless Asclepiad, *Periploca aphylla*, which extends westwards to Arabia and Nubia and southwards to Sindh, is, like *Boucerosia*, a typical xerophyte adapted to a very dry soil and atmosphere. The thorny *Acacias*, *A. eburnea* and *A. modesta* (vern. *phuldhi*), of the low bare hills of the N.W. Panjab are also drought-resisting plants.

Submontane Region.—The Submontane region consists of a broad belt below the Siwaliks extending, from the Jamna nearly to the Jhelam, and may be said to include the districts of Ambala, Karnal (part), Hoshyarpur, Kangra (part), Hazara (part), Jalandhar, Gurdaspur, Sialkot, Gujrat (part). In its flora there is a strong infusion of Indo-Malayan elements. An interesting member of it is the *Butea frondosa*, a small tree of the order Leguminosae. It is known by several names, *dhak*, *chichra*, *palah*, and *palas*. Putting out its large orange-red flowers in April it ushers in the hot weather. It has a wide range from Ceylon to Bengal, where it has given its name to the town of Dacca and the battlefield of Plassy (Palasi). From Bengal it extends all the way to Hazara. There can be no doubt that a large part of the submontane region was once *dhdk* forest. Tracts

in the north of Karnal—Chachra, in Jalandhar—Dardhak, and in Gujrat—Palahf, have taken their names from this tree. It coppices very freely, furnishes excellent firewood and good timber for the wooden frames on which the masonry cylinders of wells are reared, it exudes a valuable gum, its flowers yield a dye, and the dry leaves are eaten by buffaloes. A tree commonly planted near wells and villages in the submontane tract is the *dhrek* (*Melia azedarach*, N.O. Meliaceae), which is found as far west as Persia and is often called by English people the Persian lilac. The *bahera* (*Terminalia belerica*, N.O. Combretaceae), a much larger tree, is Indo-Malayan. Common shrubs are the *marwan* (*Vitex negundo*, N.O. Verbenaceae), *Plumbago Zeylanica* (*Plumbaginaceae*), the *bdnsa* or *bhekar* (*Adhatoda vasica*, N.O. Acanthaceae). The last is Indo-Malayan. Among herbs Cassias, which do not occur in Europe, are common. The curious cactus-like *Euphorbia Royleana* grows abundantly and is used for making hedges.

Sub-Himalaya.—A large part of the Sub-Himalayan region belongs to the Siwaliks. The climate is fairly moist and subject to less extremes of heat and cold than the regions described above. A strong infusion of Indo-Malayan types is found and a noticeable feature is the large number of flowering trees and shrubs. Such beautiful flowering trees as the *simal* or silk-cotton tree (*Bombax Malabaricum*, N.O. Malvaceae), the *amaltds* (*Cassia fistula*), *Albizzia mollis* and *Albizzia stipulata*, *Erythrina suberosa*, *Bauhinia purpurea* and *Bauhinia variegata*, all belonging to the order Leguminosae, are unknown in Europe, but common in the Indo-Malayan region. This is true also of *Oroxylum Indicum* (N.O. Bignoniaceae) with its remarkable long sword-like capsules, and of the *kamlla* (*Mallotus Philippinensis*), which abounds in the low hills, but may escape the traveller's notice

as its flowers have no charm of form or colour. He will in spring hardly fail to* observe another Indo-Malayan tree, the *dhdwi* (*Woodfordia floribunda*, N.O. Lythraceae) with its bright red flowers. Shrubs with conspicuous flowers are also common, among which may be noted species of *Clematis*, *Capparis spinosa*, *Kydia calycina*, *Mimosa rubicaulis*, *Hamiltonia suaveolens*, *Caryopteris Wallichiana*, and *Nerium Oleander*. The latter grows freely in sandy torrent beds, *Rhus cotinus*, which reddens the hillsides in May, is a native also of Syria, Italy, and Southern France. Other trees to be noticed are a wild pear (*Pyrus pashia*), the olive (*Olea cuspidata*), the *khair* (*Acacia catechu*) useful to tanners, the *tun* (*Cedrela toona*), whose wood is often used for furniture, the *dhaman* (*Grewia oppositifolia*, N.O. Tiliaceae), and several species of fig. The most valuable products however of the forests of the lower hills are the *chir* or *chil* pine (*Pinus longifolia*), and a giant grass, the bamboo (*Dendrocalamus strictus*), which attains a height of from 20 to 40 feet. Shrubs which grow freely on stony hills are the *sanattha* or *mendru* (*Dodonaea viscosa*, N.O. Sapindaceae), which is a valuable protection against denudation, as goats pass it by, the *garna*, which is a species of *Carissa*, and *Plectranthus rugosus*. Climbers are common. The great Hiptage madablota (N.O. Malpighiaceae), the *Bauhinia Vahlia* or elephant creeper, and some species of the parasitic *Loranthus*, deserve mention, also *Acacia caesia*, *Pueraria tuberosa*, *Vallaris Heynei*, *Porana paniculata*, and several vines, especially *Vitis lanata* with its large rusty leaves. Characteristic herbs are the Sweet-scented *Viola patrinii*, the slender milkwort, *Polygala Abyssinica*, a handsome pea, *Vigna vexillata*, a borage, *Trichodesma Indicum*, a balsam, *Impatiens balsamina*, familiar in English gardens, the beautiful delicate little blue *Evolvulus alsinoides*, the

showy purple convolvulus, *Ipomaea hederacea*, and a curious lily, *Gloriosa superba*.

Temperate Himalaya.—The richest part of the temperate Himalayan flora is probably in the 7500-10,000 zone. Above 10,000 feet sup-alpine conditions begin, and at 12,000 feet tree growth becomes very scanty and the flora is distinctly alpine. The *chir* pine so common in sub-Himalayan forests extends up to 6500 feet. At this height



Fig. 2u. Deodars and Hill Temple.

and 1000 feet lower the *ban* oak (*Quercus incana*), grey on the lower side of the leaf, which is so common at Simla, abounds. Where the *chil* stops, the *kail* or blue pine (*Pinus excelsa*), after the *deodar* the most valuable product of Himalayan forests, begins. Its zone may be taken as from 7000 to 9000 feet. To the same zone belong the *kelu* or *deodir* (*Cedrus Libani*), the glossy leaved *mohru*

oak (*Quercus dilatata*), whose wood is used for making charcoal, and two small trees of the Heath order, *Rhododendron arborea* and *Pieris ovalifolia*. The former in April and May lightens up with its bright red flowers the sombre Simla forests. The *kharshu* or rusty-leaved oak (*Quercus semecarpifolia*) affects a colder climate than its more beautiful glossy-leaved relation, and may almost be considered sub-alpine. It is common on Hattu, and the oaks there present a forlorn appearance after rain with funereal mosses dripping with moisture hanging from their trunks. The firs, *Picea morinda*, with its grey tassels, and *Abies Pindrow* with its dark green yew-like foliage, succeed the blue pine. *Picea* may be said to range from 8000 to 10,000 feet, and the upper limit of *Abies* is from 1000 to 2000 feet higher. These splendid trees are unfortunately of small commercial value. The yew, *Taxus baccata*, is found associated with them. Between 5000 and 8000 feet, besides the oaks and other broad-leaved trees already noticed, two relations of the dogwood, *Cornus capitata* and *Cornus macrophylla*, a large poplar, *Populus ciliata*, a pear, *Pyrus lanata*, a holly, *Ilex dipyrena*, an elm and its near relation, *Celtis australis*, and species of *Rhus* and *Euonymus*, may be mentioned. *Cornus capitata* is a small tree, but it attracts notice because the heads of flowers surrounded by bracts of a pale yellow colour have a curious likeness to a rose, and the fruit is in semblance not unlike a strawberry. Above 8000 feet several species of maple abound. The *chindr* or *Platanus orientalis*, found as far west as Sicily, grows to splendid proportions by the quiet waterways of the Vale of Kashmir. The undergrowth in temperate Himalayan forests consists largely of barberries, *Desmodiums*, *Indigoferas*, roses, brambles, *Spiraeas*, *Viburnums*, honeysuckles with their near relation, *Leycesteria formosa*,

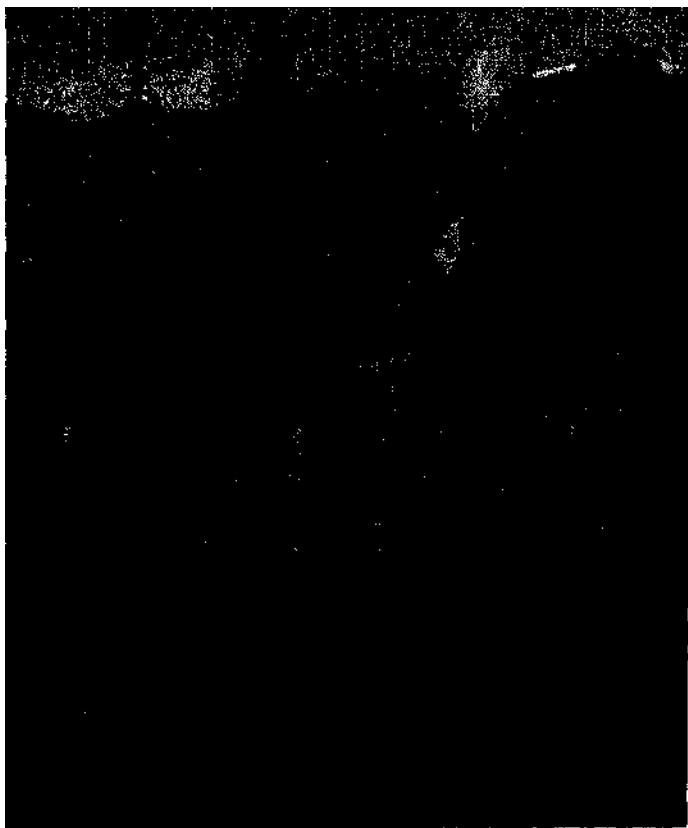


Fig. 21. Firs in Himalaya.

which has been introduced into English shrubberies. The great vine, *Vitis Himalayana*, whose leaves turn red in autumn, climbs up many of the trees. Of the flowers it is impossible to give any adequate account. The flora is distinctly Mediterranean in type; the orders in Collett's *Flora Simlensis* which are not represented in the Italian flora contain hardly more than 5 per cent of the total genera. The plants included in some of these



Fig. 22. Chinars.

non-Mediterranean orders are very beautiful, for example, the Begonias, the Amphiloches (*Bignoniaceae*), *Chirita bifolia* and *Platystemma violoides* (*Gesneraceae*), and *Hedychium* (*Scitamineae*). More important members of the flora are species of *Clematis*, including the beautiful white *Clematis montana*, anemones, larkspurs, columbine, monkshoods, St John's worts, geraniums, balsams, species of *Astragalus*, *Potentillas*, *Asters*, ragworts, species of

Cynoglossum, gentians and Swertias, Androsaces and primroses, Wulfenia and louseworts, species of Strobilanthes, Salvias and Nepetas, orchids, irises, Ophiopogon, Smilax, Alliums, lilies, and Solomon's seal. Snake plants (*Arisaema*) and their relation *Sauromatum guttatum* of the order Araceae are very common in the woods. The striped spathe in some species of *Arisaema* bears



Fig. 23. *Rhododendron campanulatum*.

a curious resemblance to the head of a cobra uplifted to strike. Orchids decrease as one proceeds westwards, but irises are much more common in Kashmir than in the Simla hills. The Kashmir fritillaries include the beautiful Crown Imperial.

Alpine Himalaya.—In the Alpine Himalaya the scanty tree-growth is represented 'by willows, junipers, and

birches. After 12,000 or 12,500 feet it practically disappears. A dwarf shrub, *Juniperus recurva*, is found clothing hill-sides a good way above the two trees of the same genus. Other alpine shrubs which may be noticed are two rhododendrons, which grow on cliffs at an elevation of 10,000 to 14,000 feet, *R. campanulatum* and *R. lepidotum*, *Gaultheria nummularioides* with its black-purple berry, and *Cassiope fastigiata*, all belonging to the order Ericaceae. The herbs include beautiful primulas, saxifrages, and gentians, and in the bellflower order species of *Codonopsis* and *Cyananthus*. Among Composites may be mentioned the tansies, *Saussureas*, and the fine *Erigeron multiradiatus* common in the forest above Narkanda. In the bleak uplands beyond the Himalaya tree-growth is very scanty, but in favoured localities willows and the pencil cedar, *Juniperus pseudo-sabina*, are found. The people depend for fuel largely on a hoary bush of the Chenopod order, *Eurotia ceratoides*. In places a profusion of the red Tibetan roses, *Rosa Webbiana*, lightens up the otherwise dreary scene.

CHAPTER VII

FORESTS

Rights of State in Waste.—Under Indian rule the State claimed full power of disposing of the waste, and, even where an exclusive right in the soil was not maintained, some valuable trees, e.g. the *deodar* in the Himalaya, were treated as the property of the Raja. Under the tenure prevailing in the hills the soil is the Raja's, but the people have a permanent tenant right in any land brought under cultivation with his permission. In Kulu the British Government asserted its ownership of the waste. In the south-western Panjab, where the scattered hamlets had no real boundaries, ample waste was allotted to each estate, and the remainder was claimed as State property.

Kinds, of Forest.—The lands in the Panjab over which authority, varying through many degrees from full ownership unburdened with rights of user down to a power of control exercised in the interests of the surrounding village communities, may be roughly divided into

- (a) Mountain forests;
- (6) Hill forests ;
- (c) Scrub and grass *Jangal* in the Plains

The first are forests of *deodar*, blue pine, fir, and oak in the Himalaya above the level of 5000 feet. The hill

forests occupy the lower spurs, the Siwaliks in Hoshiydrpur, etc., and the low dry hills of the north-west. A strong growth of *chir* pine (*Pinus longifolia*) is often found in the Himalaya between 3000 and 5000 feet. Below 3000 feet is scrub forest, the only really valuable product being bamboo. The hills in the north-western districts of the Panjab and N.W.F. Province, when nature is allowed to have its way, are covered with low scrub including in some parts a dwarf palm (*Nannorhops Ritchieana*), useful for mat making, and with a taller, but scantier growth of *phuldhi* (*Acacia modesta*) and wild olive. What remains of the scrub and grass *jangal* of the plains is to be found chiefly in the Bar tracts between the Sutlej and the Jhelam. Much of it has disappeared, or is about to disappear, with the advance of canal irrigation. Dry though the climate is the Bar was in good seasons a famous grazing area. The scrub consisted mainly of *jand* (*Prosopis spicigera*), *jal* (*Salvadora oleoides*), the *karil* (*Capparis aphylla*) and the *farash* (*Tamarix articulata*).

Management and Income of Forests.—The Forest Department of the Panjab has existed since 1864, when the first Conservator was appointed. In 1911-12 it managed 8359 square miles in the Panjab consisting of :

Reserved Forests	1844 square miles
Protected	„ 5203
Unclassed	„ 1312

It was also in charge of 235 square miles of reserved forest in the Hazara district of the N.W.F. Province, and of 364 miles of fine mountain forest in the native State of Bashahr. In addition a few reserved forests have been made over as grazing areas to the Military Department, and Deputy Commissioners are in charge of a very large area of unclassified forest.

No forest can be declared " reserved " or " protected " unless it is owned in whole or in part by the State. It is enough if the trees or some of them are the property *at* the Government. In order to safeguard all private rights a special forest settlement must be made before a forest can be declared to be " reserved/" In the case of a protected forest it is enough if Government is satisfied that the rights of the State and of private persons have been recorded at a land revenue settlement. After deducting income belonging to the year 1909-10 realized in 1910-11, the average income of the two years ending 1911-12 was £81,805 (Rs. 1,227,082) and the average expenditure £50,954 (Rs. 764,309) •

Sources of Income.—In the mountain forests the chief source of income is the *deodar*, which is valuable both for railway sleepers and as building timber. The blue pine is also of commercial value. *Deodar*, blue pine, and some *chir* are floated down the rivers to depots in the plains. Firwood is inferior to cedar and pine, and the great fir forests are too remote for profitable working at present. There are fine mountain forests in Chitral, on the Safed Koh, and in Western Waziristan, but these have so far not even been fully explored. The value of the hill forests may be increased by the success which has attended the experimental extraction of turpentine from the resin of the *chir* pine. The bamboo forests of Kangra are profitable. At present an attempt is being made to acclimatize several species of *Eucalyptus* in the low hills. The scrub *jangal* in the plains yields good fuel. As the area is constantly shrinking it is fortunate that the railways have ceased to depend on this source of supply, coal having to a great extent taken the place of wood. To prevent shortage of fuel considerable areas in the tracts commanded by the new canals are being reserved for irrigated forests. A forest

of this class covering an area of 37 square miles and irrigated from the Upper Barf Doab Canal has long existed at Changa Manga in the Lahore district.

Forests in Kashmir.—The extensive and valuable Kashmir forests are mountain and hill forests, the former, which cover much the larger area yielding, *deodar*, blue pine, and firs, and the latter *chir* pine. The total area exceeds 2600 square miles.

CHAPTER VIII

BEASTS, BIRDS, FISHES, AND INSECTS

Fauna.—With the spread of cultivation and drainage the Panjab plains have ceased to be to anything like the old extent the haunt of wild beasts and wild fowl. The lion has long been extinct and the tiger has practically disappeared. Leopards are to be found in low hills, and sometimes stray into the plains. Wolves are seen occasionally, and jackals are very common. The black buck (*Antilope cervicapra*) can still be shot in many places. The graceful little *chinkara* or ravine deer (*Gazella Bennetti*) is found in sandy tracts, and the hogdeer or *parha* (*Cervus porcinus*) near rivers. The *nilgai* (*Boselaphus tragocamelus*) is less common. Monkeys abound in the hills and in canal-irrigated tracts in the Eastern districts, where their sacred character protects them from destruction, though they do much damage to crops. Peafowl are to be seen in certain tracts, especially in the eastern Panjab. They should not be shot where the people are Hindus or anywhere near a Hindu shrine. The great and lesser bustards and several kinds of sand grouse are to be found in sandy districts. The grey partridge is everywhere, and the black can be got near the rivers. The *sisi* and the *chikor* are the partridges of the hills, which are also the home of fine varieties of pheasants including the *mondli*. Quail frequent the ripening fields in April and late in September. Duck of various kinds abound where there are *jhils*, and snipe are to be got in marshy ground. The green

parrots, crows, and vultures are familiar sights. Both the sharp-nosed (*Garialis Gangetica*, vern. *gharial*) and the blunt-nosed (*Crocodilus palustris*, vern. *magar*) crocodiles haunt the rivers. The fish are tasteless; the *rohu* and *mahseer* are the best. Poisonous snakes are the *karait*, the *cobra*, and Russell's viper. The first is sometimes an intruder into houses. Lizards and mongooses are less unwelcome visitors. White ants attack timber and ruin books, and mosquitoes and sand-flies add to the unpleasant features of the "hot weather. The best known insect pest is the locust, but visitations on a large scale are rare. Of late years much more damage has been done by an insect which harbours in the cotton bolls.

Game of the Mountains.—If sport in the plains has ceased to be first rate, it is otherwise in the hills. Some areas and the heights at which the game is to be found are noted below:

(a) Goats and goat-antelopes :

1. Ibex (*Capra Sibirica*) 10,000-14,000 ft. Kashmir, Lahul, Bashahr.
2. Markhor (*Capra Falconeri*). Kashmir, Astor, Gilgit, Suliman hills.
3. Thar (*Hemitragus jemlaicus*), 9000-14,000 ft. Kashmir, Chamba.
4. Gural (*Cemas goral*), 3000-8000 ft. Kashmir, Chamba, Simla hills, Bashahr.
5. Serow (*Nemorhaedus bubalinus*), 6000-12,000 ft. From Kashmir eastwards.

(b) Sheep:

1. Bharal (*Ovis nahura*), 10,000-12,000 ft. and over. Ladakh, Bashahr.
2. Argalf (*Ovis Ammon*). Ladakh.
3. Urial (*Ovis Vignei*) Salt Range, Suliman hills.

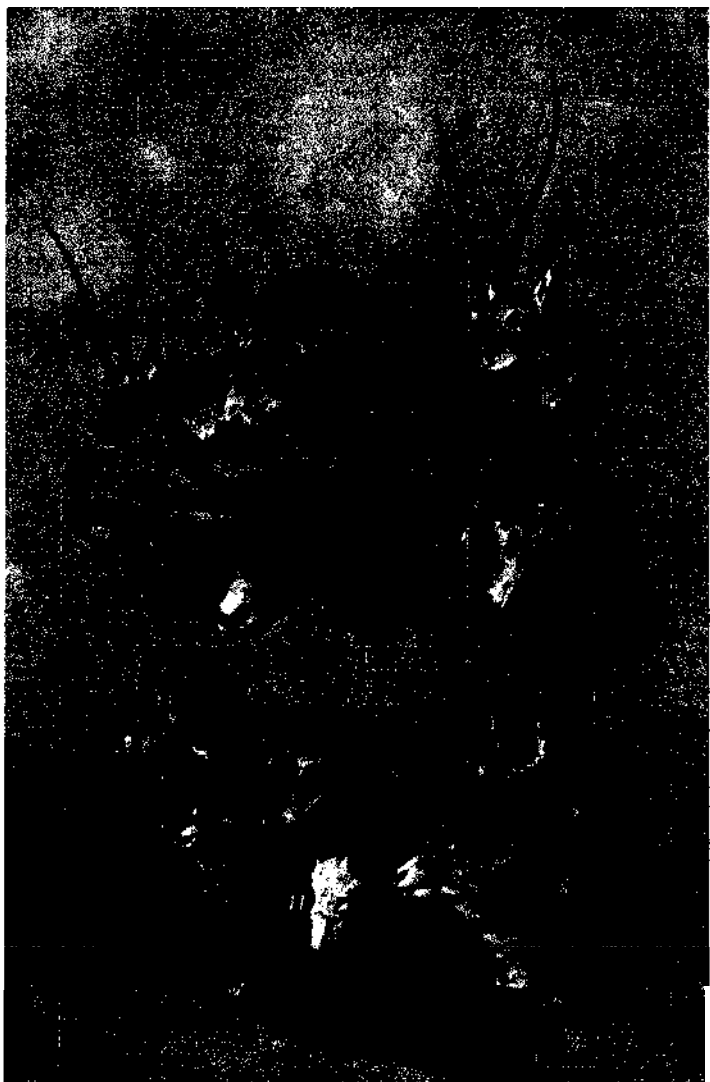


fig. 24. Big game in Ladakh.

KEY : 1, 3, 7, 9, Chiru or Tibetan Antelope. 2, Argali or Ovis Ammon.
4, 6, 8, Bharal or Ovis nahura. 5, Yak or Bos grunniens.
10, 11, 12, Urial or Ovis Vignei. 13, Bear skin.

(c) Antelopes:

1. Chiru or Tibetan Antelope (*Pantholops hodgsoni*). Ladakh.

(d) Oxen—Yak (*Bos grunniens*). Ladakh. The domesticated *yak* is invaluable as a beast of burden in the Trans-Himalayan tract. The royal fly whisk or *chauri* is made from pure white yak tails.

Fig. 25. Yaks.

(e) Stag:

1. Barasingha (*Cervus Duvanceli*). Foot of Himalaya in Kashmir.

(f) Bears:

1. Red or Brown (*Ursus Arctos*), 10,000-13,000 ft. Kashmir, Chamba, Bashahr, etc.

2. Black (*Ursus torquatus*), 6000-12,000 ft.
Same regions, but at lower elevations.
The small bear of the southern Suliman hills known as *mam* is now considered a variety of the black bear.

(g) Leopards:

1. Snow Leopard (*Felis Uncia*), 9000-15,000 ft.
Kashmir, Chamba, Bashahr.
2. Ordinary Leopard (*Felis Pardus*). Lower hills.

SHOOTING IN HILLS

Shooting in Hills.—The finest shooting in the north-west Himalaya is probably to be got in Ladakh and Baltistan, but the trip is somewhat expensive and requires more time than may be available. In many areas licenses have to be obtained, and the conditions limit the number of certain animals, and the size of heads, that may be shot. For example, the permit in Chamba may allow the shooting of two red bear and two *thar*, and when these have been got the sportsman must turn his attention to black bear and *gural*. Any one contemplating a shooting expedition in the Himalaya should get from one who has the necessary experience very complete instructions as to weapons, tents, clothing, stores, etc.

SPORT IN THE PLAINS

(a) Black Buck Shooting.—To get a good idea of what shooting in the plains is like Major Glasford's *Rifle and Romance in the Indian Jungle* may be consulted. As regards larger game the favourite sport is black buck shooting. A high velocity cordite rifle is dangerous to the country people, and some rifle firing black powder should be used. It is well to reach the home of the herd

soon after sunrise while it is still in the open, and not among the crops. There will usually be one old buck in each herd. He himself is not watchful, but his does are, and the herd gallops off with great leaps at the first scent of danger, the does leading and their lord and master bringing up the rear. If by dint of careful and patient stalking you get to some point of vantage, say 100 yards from the big buck, it is worth while to shoot. Even if the bullet finds its mark the quarry may gallop 50 yards before it drops. Good heads vary from 20" to 24" or even more.



(b) Small game in Plains.

—The cold weather shooting begins with the advent of the quail in the end of September fig.26. black buck.' and ends when they reappear among the ripening wheat in April. The duck arrive from the Central Asian lakes in November and duck and snipe shooting lasts till February in districts where there are *jhils* and swampy land. For a decent shot 30 couple of snipe is a fair bag. To *get* duck the *jhil* should be visited at dawn and again in the evening, and it is well to post several guns in favourable positions in the probable line of flight. 40 or 50 birds would be a good morning's bag. In drier tracts the bag will consist of partridges and a hare or two, or, if the country is sandy, some sand-grouse and perhaps a bustard.

CHAPTER IX

THE PEOPLE : NUMBERS, RACES, AND LANGUAGES

Growth of Population.—It is probable that in the 64 years since annexation the population of the Panjab has increased by from 40 to 50 per cent. The first reliable census was taken in 1881. The figures for the four decennial enumerations are :

Year	Panjab			N.W.F. Province	Kashmir
	British	native States	Total		
1881	17,274,597	3,861,683	21,136,280	1,543,726	
1891	19,009,368	4,263,280	23,272,648	1,857,504	2,543,952
1901	20,330,337	4,424,398	24,754,735	2,041,534	2,905,578
1911	19,974,956	4,212,974	24,187,730	2,196,933	3,158,126

Incidence of Population in Panjab.—The estimated numbers of independent tribes dwelling within the British sphere of influence is 1,600,000. The incidence of the population on the total area of the Panjab including native States is 177 per square mile, which may be compared with 189 in France and 287 in the British Isles. As the map shows, the density is reduced by the large area of semi-desert country in the south-west and by the mountainous tract in the north-east. The

distribution of the population is the exact opposite of that which prevails in Great Britain. There are only 174 towns as compared with 44,400 villages, and nearly nine-tenths of the people are to be found in the latter. Some of the so-called towns are extremely small, and

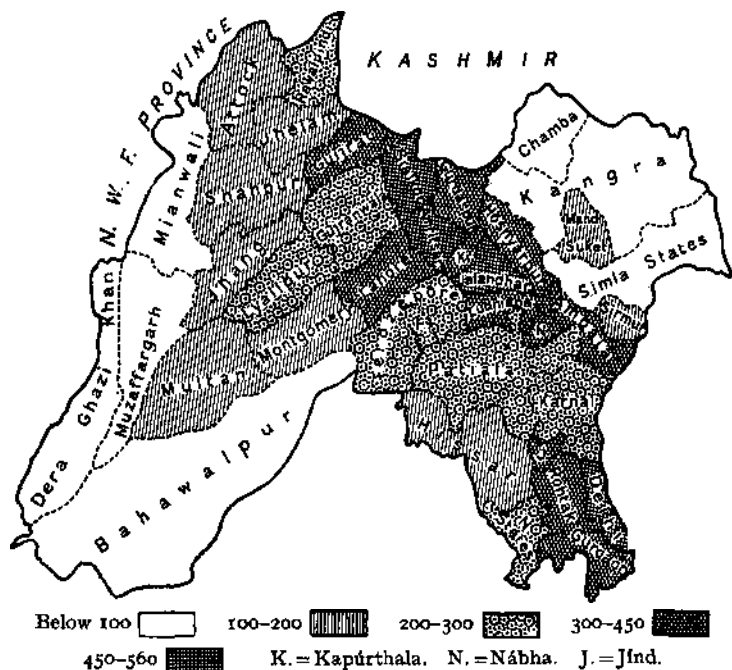


Fig. 27. Map showing density of population.

the average population per town is but 14,800 souls. There are no large towns in the European sense. The biggest, Delhi and Lahore, returned respectively 232,837 and 228,687 persons.

Growth stopped by Plague.—The growth of the population between 1881 and 1891 amounted to 10 p.c. Plague,

which has smitten the Panjab more severely than any other province, appeared in 1896, and its effect was seen in the lower rate of expansion between 1891 and 1901. Notwithstanding great extensions of irrigation and cultivation in the Rechna Doab the numbers declined

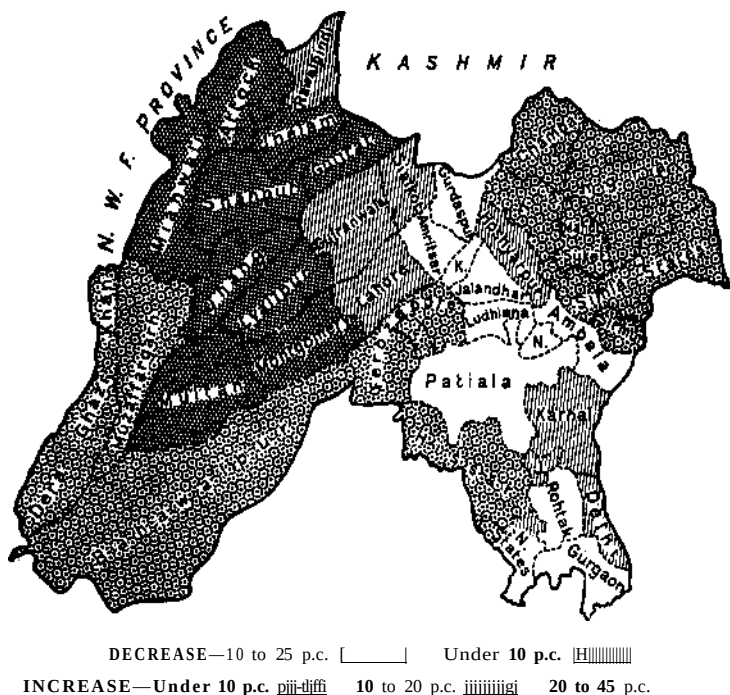


Fig. 28. Map showing increase and decrease of population.

by 2 p.c. between 1901 and 1911. In the ten years from 1901 to 1910 in the British districts alone over two million people died of plague and the death-rate was raised to 12 p.c. above the normal. It actually exceeded the birth-rate by 2 p.c. Of the total deaths in the decade nearly one in four was due to plague.

The part which has suffered most is the rich submontane tract east of the Chenab, Lahore and Gujranwala, and some of the south-eastern districts. A glance at the map will show how large the loss of population has been there. It is by no means entirely due to plague. The submontane districts were almost over-populated, and many of their people have emigrated as colonists, tenants, and labourers to the waste tracts brought under cultivation by the excavation of the Lower Chenab and Jhelam canals. The districts which have received very marked additions of population from this cause are Jhang (21 p.c), Shahpur (30 p.c), and Lyallpur (45 p.c). Deaths from plague have greatly increased the deficiency of females, which has always been a noteworthy feature. In 1911 the proportion had very nearly fallen to four females for every five males.

Increase and Incidence in N.W.F. Province.—The incidence of the population in the area covered by the five districts of the N.W.F. Province is 164 per square mile. The district figures are given in the map in the margin. The increase between 1901 and 1911 in these districts was $7\frac{1}{2}$ p.c. There have been no severe outbreaks of plague like those which have decimated the population of some of the Panjab districts.

General figures for the territory of the Maharaja of Kashmir are meaningless, In the huge Indus valley the incidence is only 4 persons per sq. mile. In Jammu and Kashmir it is 138. The map taken from the Census

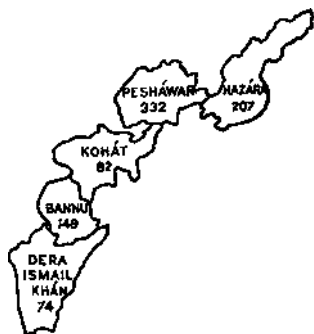


Fig. 29. Map showing density of population in N.W.F. Province.

Report gives the details. The increase in the decade was on paper $8\frac{1}{2}$ p.c., distributed between $5\frac{1}{4}$ in Jammu, 12 in Kashmir, and 14 in the Indus valley. A great part of the increase in the last must be put down to better enumeration.

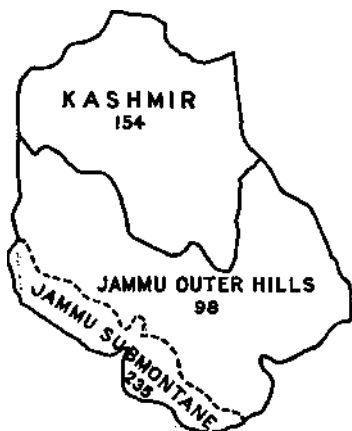


Fig. 30. Map showing density of population in Kashmir.

Health and duration of life.—The climate of the Panjab plains has produced a vigorous, but not a long-lived, race. The mean age of the whole population in the British districts is only 25. The normal birth-rate of the Panjab is about 41 per 1000, which exceeds the English rate in the proportion of 5 to 3. In 1910 the recorded

birth-rate in the N.W.F. Province was 38 per 1000. Till plague appeared the Panjab death-rate averaged 32 or 33 per 1000, or more than double that of England. The infantile mortality is enormous, and one out of every four or five children fails to survive its first year. The death-rate in the N.W.F. Province was 27 per 1000 in 1910. In the ten years ending 1910 plague pushed up the average death-rate in the Panjab to $43\frac{1}{2}$ per 1000. Even now malarial fever is a far worse foe than plague. The average annual deaths in the ten years ending 1910 were :

Fevers	..	450,376
Plague	..	202,522
Other diseases	. •	231,473
Total./	..	884,371

Fever is very rife in October and November, and these are the most unhealthy months in the year, March and April being the best. The variations under fevers and plague from year to year are enormous. In 1907 the latter claimed 608,685 victims, and the provincial death-rate reached the appalling figure of 61 per 1000. Next year the plague mortality dropped to 30,708, but there were 697,058 deaths from fever. There is unfortunately no reason to believe that plague has spent its force or that the people as a whole will in the near future generally accept the protective measures of inoculation and evacuation. Vaccination, the prejudice against which has largely disappeared, has robbed the small-pox goddess of many offerings. As a general cause of mortality the effect of cholera in the Panjab is now insignificant. But it is still to be feared in the Kashmir valley, especially in the picturesque but filthy summer capital. Syphilis is very common in the hill country in the north-east of the province. Blindness and leprosy are both markedly on the decrease. Both infirmities are common in Kashmir, especially the former. The rigours of the climate in a large part of the State force the people to live day and night for the seven winter months almost entirely in dark and smoky huts, and it is small wonder that their eyesight is ruined.

Occupations.—The Panjab is preeminently an agricultural country, and the same is true in an almost greater degree of the N.W.F. Province and Kashmir. The typical holding is that of the small landowner tilling from 3 to 10 acres with his own hands with or without help from village menials. The tenant class is increasing, but there are still three owners to two tenants. Together they make up 50 p.c. of the population of the Panjab, and 5 p.c. is added for farm labourers. Altogether, according to the census returns 58 p.c. of the population

depends for its support on the soil, 20.5 on industries, chiefly the handicrafts of the weaver, potter, leather worker, carpenter, and blacksmith, 9.4 on trade, 2.5 on professions, and 9.6 on other sources of livelihood.

Measures taken to protect agriculturists.—In a country owned so largely by small farmers, the first task of the Government must be to secure their welfare and contentment. Before plague laid its grasp on the rich central districts it was feared that they were becoming congested, and the canal colonization schemes referred to in a later chapter were largely designed to relieve them. But there is a much subtler foe to whose insidious attacks small owners are liable, the temptation to abuse their credit till their acres are loaded with mortgages and finally lost. So threatening had this economic disease for years appeared that at last in 1900 the Panjab Alienation of Land Act was passed, which forbade sales by people of agricultural tribes to other classes without the sanction of the district officer, and greatly restricted the power of mortgaging. The same restrictions are in force in the N.W.F. Province. The Act is popular with those for whose benefit it was devised, and has effected its object of checking land alienation and probably to some extent discouraged extravagance. It has been supplemented by a still more valuable measure, the Cooperative Credit Societies Act. The growth of these societies in the Panjab has been very remarkable, a notable contrast to the very slow advance of the similar movement in England. In 1913-14 there were 3261 village banks with 155,250 members and a working capital of $133\frac{3}{4}$ lakhs or £885,149, besides 38 central banks with a capital of $42\frac{3}{4}$ lakhs or about £285,000. Village banks held deposits amounting to nearly 37 lakhs, more than half of which was received from non-members, and lent out $71\frac{1}{2}$ lakhs in the year to their members.

Tribal Composition.—Table I based on the Census returns shows the percentages of the total population belonging to the chief tribes. The classification into "land-holding, etc." is a rough one



Fig. 31. Jat Sikh Officers (father and son).

Jats. — The Panjab is *par excellence* the home of the Jats. Everywhere in the plains, except in the extreme north-west corner of the province, they form

a large element in the population. In the east they are Hindus, in the centre Sikhs and Muhammadans, and in the west Muhammadans. The Jat is a typical son of the soil, strong and sturdy, hardworking and brave, a fine soldier and an excellent farmer, but slow-witted and grasping. The Sikh Jat finds an honourable outlet for his overflowing energy in the army and in the service of the Crown beyond the bounds of India. When he misses that he sometimes takes to dacoity. Unfortunately he is often given to strong drink, and, when his passions or his greed are aroused, can be exceedingly brutal. Jat in the Western Pan jab is applied to a large number of tribes, whose ethnical affinities are somewhat dubious.

Rajputs.—Rajputs are found in considerable numbers all over the province except in a few of the western and south-western districts. As farmers they are much hampered by caste rules which forbid the employment of their women in the fields, and the prohibition of widow remarriage is a severe handicap. They are generally classed as poor cultivators, and this is usually, but by no means universally, a true description. The Dogra Rajputs of the low hills are good soldiers. They are numerous in Kangra and in the Jammu province of Kashmir.

Brahmans.—The Brahmans of the eastern plains and north-eastern hills are mostly agriculturists, and the Muhial Brahman of the north-Western districts is a landowner and a soldier. In the hills the Brahman is often a shopkeeper. The priestly Brahman is found everywhere, but his spiritual authority has always been far less in the Panjab than in most parts of India.

Biluches.—When the frontier was separated off the Biluch district of Dera Ghazi Khan with its strong tribal organization under chiefs or *tumanddrs* was left in the Panjab. The Biluches are a frank, manly, truthful

race, free from fanaticism and ready as a rule to follow their chiefs. They are fine horsemen. Unfortunately it is difficult to get them to enlist.

Pathans.—Both politically and numerically the Pathans are the predominant tribe in the N.W.F. Province, and are of importance in parts of the Panjab districts of Attock and Mianwali. The Pathan is a democrat and often a fanatic, more under the influence of *mullahs* than of the *maliks* or headmen of his tribe. He has not the frank straightforward nature of the Biluch, is untiring in pursuit of revenge, and is not free from cruelty. But, when he has eaten the *Sarkd/s* salt, he is a very brave and dashing soldier, and he is a faithful host to anyone whom he has admitted under his roof.

Awans.—The home of the A wan in the Panjab is the Salt Range and the parts of Attock and Mianwali, lying to the north of it, and this tract of country is known as the Awankari. In the N.W.F. Province they are, after the Pathans, by far the largest tribe, and are specially numerous in Peshawar and Hazara.

Shekhs.—Of the Shekhs about half are Kureshis, Sadikis, and Ansarfs of foreign origin and high social standing. The rest are new converts to Islam, often of the sweeper caste originally.

Saiyyids.—Saiyyids are unsatisfactory landowners, and are kept going by the offerings of their followers. They are mostly Shias. It is not necessary to believe that they are all descended from the Prophet's son-in-law, Ali. A native proverb with pardonable exaggeration says: "The first year I was a weaver (Julaha), the next year a Shekh. This year, if prices rise, I shall be a Saiyyid."

Trading Castes.—Aroras are the traders of the S.W. Panjab and of the N.W.F. Province. They share the Central Panjab with the Khatris, who predominate in the north-western districts. The Khatrf of the Rawalpindi

division is often a landowner and a first-class fighting man. Some of our strongest Indian civil officials have been Aroras. In the Delhi division the place of the Arora and Khatri is taken by the Bania, and in Kangra by the Slid or the Brahman. Khojas and Parachas are Muhammadan traders.

Artizans and Menials.—Among artizans and menials Sunars (goldsmiths), Rajes (masons), Lohars (blacksmiths), and Tarkhans (carpenters) take the first rank.-

Impure Castes.—The vast majority of the impure castes, the "untouchables" of the Hindu religion, are scavengers and workers in leather. The sweeper who embraces Islam becomes a Musalli. The Sikh Mazhbis, who are the descendants of sweeper converts, have done excellent service in our Pioneer regiments. The Hindu of the Pan jab in his avoidance of "untouchables" has never gone to the absurd lengths of the high caste Madrasi, and the tendency is towards a relaxation of existing restrictions.

Mendicants.—Men of religion living on charity, wandering *fakirs*, are common sights, and beggars are met with in the cities, who sometimes exhibit their deformities with unnecessary insistence.

Kashmiris.—According to the census return the number of Kashmiri Musulmans, who make up 60 p.c. of the inhabitants of the Jhelam valley, was 765,442. They are no doubt mostly descendants of various Hindu castes, perhaps in the main of Hill Brahmans, but Islam has wiped out all tribal distinctions. Sir Walter Lawrence wrote of them: "The Kashmiri is unchanged in spite of the splendid Moghal, the brutal Afghan, and the bully Sikh. Warriors and statesmen came and went; but there was no egress, and no wish___in normal times to leave their homes. The outside world was far, and from all accounts inferior to the pleasant valley.... So

the Kashmiris lived their self-centred life, conceited, clever, and conservative/

The Hindu Kashmiri Pandits numbered 55,276.

Tribes of Jammu.—Agricultural Brahmans are numerous in the Jammu province. Thakkars and Meghs are important elements of the population of the outer hills. The former are no doubt by origin Rajputs, but

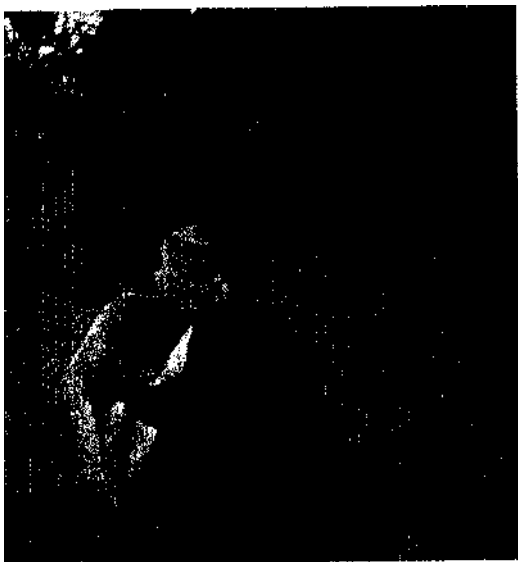


Fig. 32. Blind Beggar.

they have cast off many Rajput customs. The Meghs are engaged in weaving and agriculture, and are regarded as more or less impure by the higher castes.

Gtijars.—Gujars in the Maharaja's territories are almost always graziers. In 1911 they numbered 328,003.

Dard Tribes of Astor and Gilgit.—The people of Astor and Gilgit are Dards speaking Shina and professing Islam. Sir Aurel Stein wrote of them : " The Dard

race which inhabits the valleys N. of (the Inner Himalaya) as far as the Hindu Kush is separated from the Kashmiri population by language as well as by physical characteristics....There is little in the Dard to enlist the sympathies of the casual observer. He lacks the intelligence, humour, and fine physique of the Kashmiri, and, though undoubtedly far braver than the latter, has none of the independent spirit and manly



Fig. 33. Dards.

bearing which draw us towards the Pathan despite all his failings. But I can never see a Dard without thinking of the thousands of years of struggle they have carried on with the harsh climate and the barren soil of their mountains¹/'

Kanjutis.—The origin of the Kanjutis of Hunza is uncertain, and so are the relationships of their language.

¹ *Sand Buried Ruins of Khotan*, pp. 14—15.

Mongoloid Population of Ladakh.—The population of Ladakh and Baltistan is Mongoloid, but the Baltis (72,439) have accepted Islam and polygamy, while the Ladakhis have adhered to Buddhism and polyandry.

Ethnological theories.—In *The People of India* the late Sir Herbert Risley maintained that the inhabitants of Rajputana, nearly the whole of the Panjab, and a

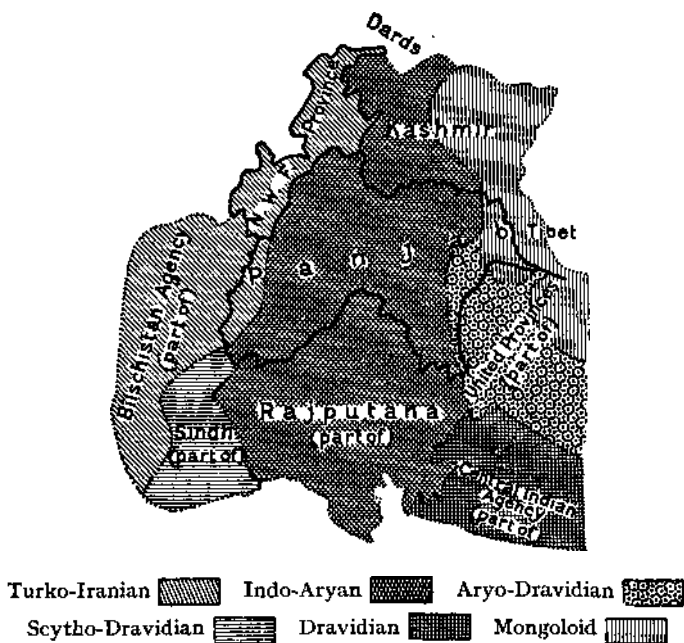


Fig. 34- Map showing races.

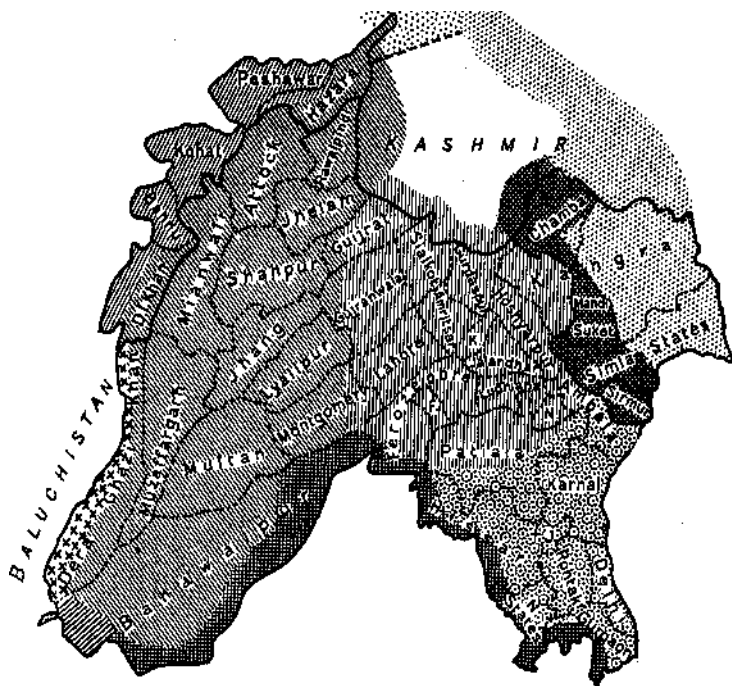
large part of Kashmir, whatever their caste or social status, belonged with few exceptions to a single racial type, which he called Indo-Aryan. The Biluches of Dera Ghazi Khan and the Pathans of the N.W.F. Province formed part of another group which he called Turko-Iranian. The people of a strip of territory on

the west of the Jamna he held to be of the same type as the bulk of the inhabitants of the United Provinces, and this type he called Aryo-Dravidian. Finally the races occupying the hills in the north-east and the adjoining part of Kashmir were of Mongol extraction, a fact which no one will dispute. Of the Indo-Aryan type Sir Herbert Risley wrote: "The stature is mostly tall, complexion fair, eyes dark, hair on face plentiful, head long, nose narrow and prominent, but not specially long/" He believed that the Panjab was occupied by Aryans, who came into the country from the west or north-west with their wives and children, and had no need to contract marriages with the earlier inhabitants. The Aryo-Dravidians of the United Provinces resulted from a second invasion or invasions, in which the Aryan warriors came alone and had to intermarry with the daughters of the land, belonging to the race which forms the staple of the population of Central India and Madras. This theory was based on measurements of heads and noses, and it seems probable that deductions drawn from these physical characters are of more value than any evidence based on the use of a common speech. But it is hard to reconcile the theory with the facts of history even in the imperfect shape in which they have come down to us, or to believe that Sakas, Yuechi, and White Huns (see historical section) have left no traces of their blood in the province. If such there are, they may perhaps be found in some of the tribes on both sides of the Salt Range, such as Gakkhars, Janjuas, Awans, Tiw&nas, Ghebas, and Johdras, who are fine horsemen and expert tent-peggers, not "tall heavy men without any natural aptitude for horsemanship/" as Sir Herbert Risley described his typical Panjabi (p. 59 of his book).

Languages.—In the area dealt with in this book no less than eleven languages are spoken, and the dialects

ix] NUMBERS, RACES AND LANGUAGES in

are very numerous. It is only possible to tabulate the languages and indicate on the map the localities



- i. Tibeto-Chinese M 2. Pashtu 3. Biluchl * * * *
4. Kashmiri |_____ 5. Pahari ||||| 6. Lahndi JJJJ 7. Sindhi JJ/JJ
8. Panjabi 9. W. Hindi HH 10. Rajastani,
11. Shina-Khowar ::::: K. Kapiirthala. N. Nahan. F. Faridkot.

Fig. 35. Map showing distribution of languages.

in which they are spoken. For the Panjab the figures of the recent census are:

A 1. Tibeto-Chinese 41,607

B. Aryan :

(a) Iranian:	2. Pashtu	67,174
	3- Biluchi	70,675
	4 Kohistani	26
(b) Indian:	5. Kashmiri	7,190
	6. PaMri	993,363
	7. Lahndi	4,253,566
	8. Sindhi	24 •
	9 Panjabi	14,111,215
	10. Western Hindi	3,826,467
	n. Rajasthani	725,850

The eastern part of the Indus valley in Kashmir forming the provinces of Ladakh and Baltistan is occupied by a Mongol population speaking Tibeto-Chinese dialects. Kashmiri is the language of Kashmir Proper, and various dialects of the Shina-Khowar group comprehensively described as Kohistani are spoken in Astor, Gilgit, and Chilas, and to the west of Kashmir territory in Chitral and the Kohistan or mountainous country at the top of the Swat river valley. Though Kashmiri and the Shina-Khowar tongues belong to the Aryan group, their basis is supposed to be non-Sanskritic, and it is held that there is a strong non-Sanskritic or Pisacha element also in Lahndi or western Panjabi, which is also the prevailing speech in the Hazara and Dera Ismail Khan districts of the N.W.F. Province, and is spoken in part of the Jammu province of Kashmir. Pashtu is the common language in Peshawar, Kohat, and Bannu, and is spoken on the western frontiers of Hazara and Dera Ismail Khan, and in the independent tribal territory in the west between the districts of the N.W.F. Province and the Durand Line and immediately adjoining the Peshawar district on the north. Rajasthani is a collective name for the dialects of Rajputana, which overflow

into the Panjab, occupying a strip along the southern frontier from Bahawalpur to Gurgaon. The infiltration of English words and phrases into the languages of the province is a useful process and as inevitable as was the enrichment of the old English speech by Norman-French. But for the present the results are apt to sound grotesque, when the traveller, who expects a train to start at the appointed time, is told : "*tren late hai, lekin singal down hogaya* " (the train is late, but the signal has been lowered), or the criticism is passed on a popular officer: "*bahut affable hai, lekin hand shake nahin kartd*" (very affable, but doesn't shake hands).

CHAPTER X

THE PEOPLE (*continued*): RELIGIONS

Religions in N.W.F. Province.—In the N.W.F. Province an overwhelming majority of the population professes Islam. In 1911 there were 2,039,994 Musalmans as compared with 119,942 Hindus, 30,345 Sikhs, and 6585 Christians.

Religions in Kashmir.—In Kashmir the preponderance of Muhammadans is not so overwhelming. The figures are :

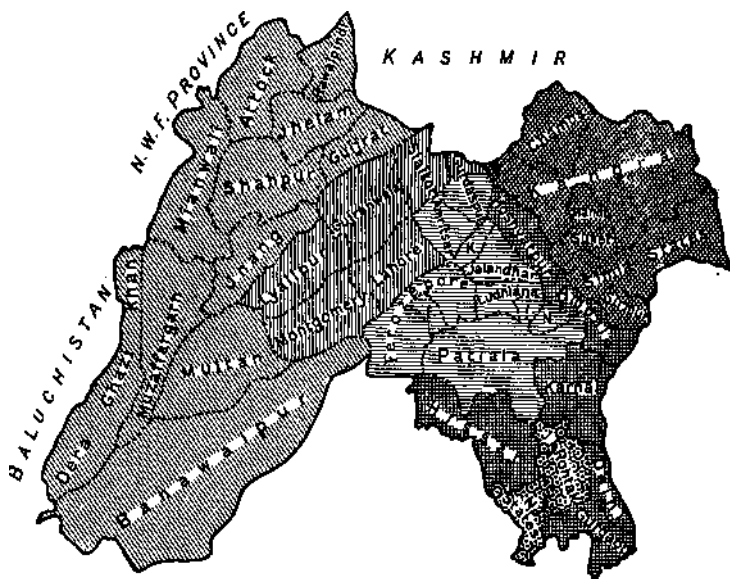
Muhammadans	..	..	2,398,320
Hindus	..	..	690,390
Buddhists.	.	.	36,512
Sikhs.	.	.	31,553

The Hindus belong mostly to the Jammu province, where nearly half of the population professes that faith. The people of Kashmir, Baltistan, Astor and Gilgit, Chilis and Hunza Nagar, are Musalmans. The Ladakhfs are Buddhists.

Religions in Pan jab.—The distribution by religions of the population of the Panjab and its native States in 1911 was :

Muhammadans.	.12,275,477 or 51 p.c.
Hindus.	8,773,621 or 36 p.c.
Sikhs.	2,883,729 or 12 p.c.
Others, chiefly Christian (199,751)	254,923 or 1 p.c.

The strength of the Muhammadans is in the districts west of the Bias and the Sutlej below its junction with the Bids. 83 p.c. of the subjects of the Nawab of Bahawalpur are also Muhammadans.. In all this westerh region there are few Hindus apart from the shopkeepers and traders. On the other hand the hill country in the



MUHAMMADAN. Above 80 p.c. ISffiJ 60-80 p.c. IBHWW
 HINDU. Above 90 p.c. Mgrtl 75-90 p.c. J1§1§ 50-75 p.c. §HJ§§
 SIKH. 20—43 p.c. []

Fig. 36. Map showing distribution of religions.

north-east is purely Hindu, except on the borders of Tibet, where the scanty population professes Buddhism. While Hinduism is the predominant faith in the south-east, quite a fourth of the people there are Musalmans. Sikhs nowhere form a majority. The districts in the

eastern part of the Central Plains where they constitute more than one-fifth of the population are indicated in the map. In six districts, Lahore, Montgomery, Gujranwala, Lyallpur, Hoshiarpur, and Ambala the proportion is between 10 and 20 p.c.

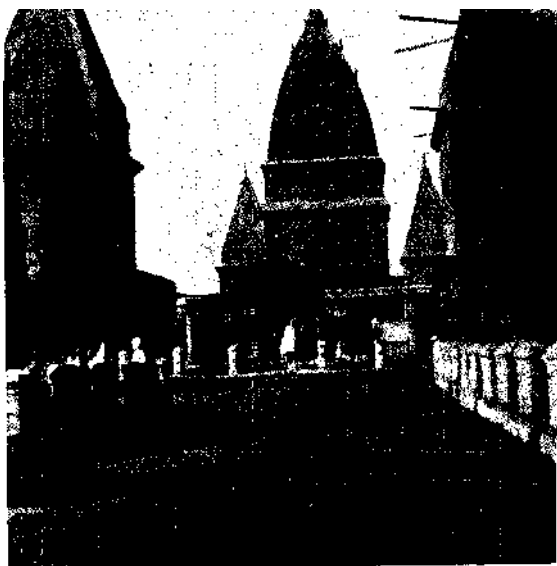


Fig. 37. Raghunath Temple, Jammu.

Growth and Decline in numbers.—There was a slight rise in the number of Muhammadans between 1901 and 1911. Their losses in the central districts, where the plague, scourge has been heaviest, were counterbalanced by gains in the western tract, where its effect has been slight. On the other hand the decrease under Hindus

amounts to nearly 15 p.c. The birth-rate is lower and the death-rate higher among Hindus than among Musalmans, and their losses by plague in the central and some of the south-eastern districts have been very heavy. A change of sentiment on the part of the Sikh community has led to many persons recording themselves as Sikhs who were formerly content to be regarded as Hindus. It must be remembered that one out of four of the recorded



Fig. 38. Golden Temple, Amritsar.

Hindus belongs to impure castes, who even in the Panjab pollute food and water by their touch and are excluded from the larger temples. Since 1901 a considerable number of Chihhras or Sweepers have been converted to Islam and Christianity.

Sikhs.—Notwithstanding heavy losses by plague Sikhs have increased by 37 p.c. A great access of zeal has led to many more Sikhs becoming *Kesdhdris*. *Sajhdhdis* or

Munas, who form over one-fifth of the whole Sikh community, were in 1901 classed as Hindus. They are followers of Baba Nanak, cut their hair, and often smoke. When a man has taken the "*pahul*," which is the sign of his becoming a *Kesdhari* or follower of Guru Govind, he must give up the *hukka* and leave his hair unshorn. The future of Sikhism is with the *Kesdharis*.

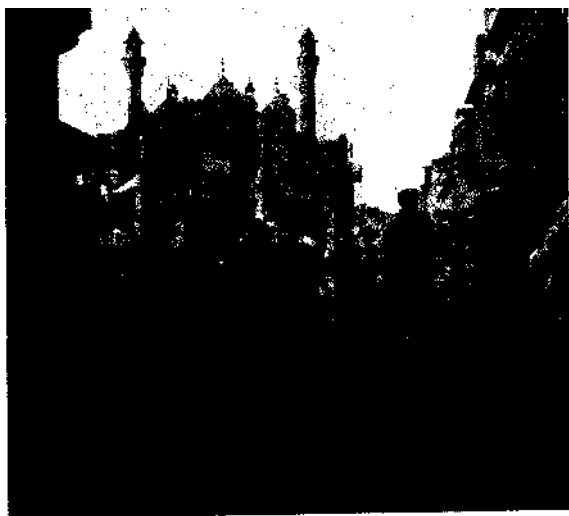


Fig 39 Mosque in Lahore City.

Muhammadans.—In the eastern districts the conversions to Islam were political, and Hindu and Muhammadan Rajputs live peaceably together in the same village. The Musalmans have their mosque for the worship of Allah, but were, and are still, not quite sure that it is prudent wholly to neglect the godlings. The conversion of the western Panjab was the result largely of missionary effort. *Piri muridi* is a great institution there. Every man should be the "*murid*" or pupil of some holy man

or *pir*, who combines the functions in the Roman Catholic Church of spiritual director in this world and the saint in heaven. The *pir* may be the custodian of some little saint's tomb in a village, or of some great shrine like that of Baba Farid at Pakpattan, or Bahawal Hakk at Multan, or Taunsa Sharif in Dera Ghazi Khan, or Golra in Rawalpindi. His own holiness may be more official than personal. About 1400 A.D. the Kashmiris were offered by their Sultan Sikandar the choice between conversion and exile, and chose the easier alternative. Like the western Panjabis they are above all things saint-worshippers. The ejaculations used to stimulate effort show this. The embankment builder in the south-western Panjab invokes the holy breath of Bahawal Hakk, and the Kashmiri boatman's cry "Ya Pir, dast gir," "Oh Saint, lend me a hand," is an appeal to their national saint.

Effect of Education.—The Musalmans of the western Panjab have a great dislike to Sikhs, dating from the period of the political predominance of the latter. So far the result of education has been to accentuate religious differences and animosities. Both Sikhs and Musalmans are gradually dropping ideas and observances retained in their daily life after they ceased to call themselves Hindus. On the other hand, within the Hindu fold laxity is now the rule rather than the exception, and the neglect of the old ritual and restrictions is by no means confined to the small but influential reforming minority which calls itself Arya Samaj.

Christians.—The number of Christians increased three-fold between 1901 and 1911. The Presbyterian missionaries have been especially successful in attracting large numbers of outcastes into the Christian Church.

Hinduism in the Panjdb.—Hinduism has always been, and to-day is more than ever, a very elastic term. The

Census Superintendent, himself a high caste Hindu, wrote : " The definition which would cover the Hindu of the modern times is that he should be born of parents not belonging to some recognised religion other than Hinduism, marry within the same limits, believe in God, respect the cow, and cremate the dead." There is room in its ample folds for the Arya Samajist, who rejects



Fig. 40. God and Goddess, Chamba.

idol worship and is divesting himself of caste prejudices and marriage restrictions, and the most orthodox Sanatan dharmist, who carries out the whole elaborate daily ritual of the Brahmanical religion, and submits to all its complicated rules; for the ordinary Hindu trader, who is equally orthodox by profession, but whose ordinary religious exercises are confined to bathing in the morning; for the villager of the eastern districts, who often has

the name of Parameshvar or the Supreme Lord on his lips, but who really worships the godlings, Guga Pir, Sarwar or Sultan Pir, Sitla (the small-pox goddess), and others, whose little shrines we see round the village



Fig. 41. A Kulu godling and his attendants.

site; and for the childish idolaters of Kulu, who carry their local deities about to visit each other at fairs, and would see nothing absurd in locking them all up in a dungeon if rain held off too long.

CHAPTER XI

THE PEOPLE *{continued}*: EDUCATION

Educational progress.—According to the census returns of 1911 there are not four persons per 100 in the province who are "literate" in the sense of being able to read and write a letter. The proportion of literacy among Hindus and Sikhs is three times as great as among Muhammadans. In 1911-12 one boy in six of school-going age was at school or college and one girl in 37. This may seem a meagre result of sixty years of work, for the Government and Christian missionaries, who have had an honourable connection with the educational history of the province, began their efforts soon after annexation, and a Director of Public Instruction was appointed as long ago as 1856. But a country of small peasant farmers⁴ is not a very hopeful educational field, and the rural population was for long indifferent or hostile. If an ex-soldier of the *Khalsa* had expressed his feelings, he would have used words like those of the "Old Pindari" in Lyalls poem, while the Muhammadan farmer, had he been capable of expressing his hostility, might have argued that the teaching his son could get in a village school would help him not at all in his daily work. Things are better now. We have improved our scheme of teaching, and of late raised the pay of the teachers, which is, however, still hardly adequate. Till a better class of teachers can be secured for primary schools, the best

educational theories will not bear fruit in practice. The old indifference is weakening, and the most hopeful sign is the increasing interest taken in towns in female education, a matter of the first importance for the future of the country.

Present position.—The present position is as follows:—The Government has made itself directly or indirectly responsible for the education of the province. At the headquarters of each district there is a high school for boys controlled by the Education Department. In each district there are Government middle schools, Anglo-vernacular or Vernacular, and primary schools, managed by the Municipal Committees and District Boards. Each middle school has a primary, and each high school a primary and a middle, department. For the convenience of pupils who cannot attend school while living at home hostels are attached to many middle and high schools. Fees are very moderate. In middle schools, where the income covers 56 p.c. of the expenditure, they range from R. 1 (16 pence) monthly in the lowest class in which they are levied to Rs. 4 (5 shillings) in the highest class. In rural primary schools the children of agriculturists are exempt because they pay local rate, and others, when not exempt on the score of poverty, pay nominal fees. Besides the Government schools there are aided schools of the above classes usually of a sectarian character, and these, if they satisfy the standards laid down, receive grants. There is a decreasing, but still considerable, class of private schools, which make no attempt to satisfy the conditions attached to these grants. The *mullah* in the mosque teaches children passages of the Kuran by rote, or the shopkeeper's son is taught in a Mahajanf school native arithmetic and the curious script in which accounts are kept. A boys' school of a special kind is the Panjab Chiefs' College at Lahore,

intended for the sons of princes and men of high social position

Technical Schools.—In an agricultural country like the Pan jab there is not at present any large field for technical schools. The best are the Mayo School of Art and the Railway Technical School at Lahore. The latter is successful because its pupils can readily find employment in the railway workshops. Mr Kipling,



Fig. 42. A School in the time preceding annexation.
(From a picture book said to have been prepared for the Maharaja Dalip Singh.)

the father of the poet, when principal of the former, did much for art teaching, and the present principal, Bhai Ram Singh, is a true artist. The Government Engineering School has recently been remodelled and removed to Rasul, where the head-works of the Lower Jhelam canal are situated.

Female Education.—Female education is still a tender plant, but of late growth has been vigorous. The Victoria

May School in Lahore founded in 1908 has developed into the Queen Mary College, which provides an excellent education for girls of what may be called the upper middle class. There is a separate class for married ladies. Hitherto they have only been reached by the teaching given in their own homes by missionary ladies, whose useful work is now being imitated by the Hindu community in Lahore. There is an excellent Hindu Girls' Boarding School in Jalandhar. The Sikhs and the body of reformers known as the Dev Samaj have good girls' schools at Ferozepore. The best mission schools are the Kinnaird High School at Lahore and the Alexandra School at Amritsar. The North India School of Medicine for Women at Ludhiana, also a missionary institution, does admirable work. In the case of elementary schools the difficulty of getting qualified teachers is even greater than as regards boys' schools.

Education of European Children.—There are special arrangements for the education of European and Anglo-Indian children. In this department the Roman Catholics have been active and successful. The best schools are the Lawrence Asylum at Sanawar, Bishop Cotton's School, Auckland House, and St Bede's at Simla, St Denys', the Lawrence Asylum, and the Convent School at Murree.

The Panjab University.—The Pan jab University was constituted in 1882, but the Government Arts College and Oriental College, the Medical College and the Law School at Lahore, which are affiliated with it, are of older date. The University is an examining body like London University. Besides the two Arts Colleges under Government management mentioned above there are nine private Arts Colleges aided by Government grants and affiliated to the University. Four of these are in Lahore, two, the Dayanand Anglo-Vedic and

the Dial Singh Colleges, are Hindu institutions, one, the Islamia College, is Muhammadan, the fourth is the popular and efficient Forman Christian College. Four out of five art students read in Lahore. Of the Arts colleges outside Lahore the most important is the St Stephen's College at Delhi. The Khalsa School and College at Amritsar is a Sikh institution. The Veterinary College at Lahore is the best of its kind in India, and the Agricultural College at Lyallpur is a well-equipped institution, which at present attracts few pupils, but may play a very useful role in the future. There is little force in the reproach that we built up a super-structure of higher education before laying a broad foundation of primary education. There is more in the charge that the higher educational food we have offered has not been well adapted to the intellectual digestions of the recipients.

Education in **N.W.F. Province, Native States, and Kashmir.**—The Panjab Native States and Kashmir are much more backward as regards education than the British Province. As is natural in a tract in which the population is overwhelmingly Musalman by religion and farming by trade the N.W.F. Province lags behind the Panjab). Six colleges in the States and the N.W.F. Province are, affiliated to the Panjab University.

CHAPTER XII

ROADS AND RAILWAYS

Roads.—The alignment of good roads in the plains of the Panjab is easy, and the deposits of calcareous nodules or *kankar* often found near the surface furnish good metalling material. In the west the rainfall is so scanty and in many parts wheeled traffic so rare that it is often wise to leave the roads unmetalled. There are in the Panjab over 2000 miles of metalled, and above 20,000 miles of unmetalled roads. The greatest highway in the world, the Grand Trunk, which starts from Calcutta and ends at Peshawar, passes through the province from Delhi in the south-east to Attock in the extreme north-west corner, and there crosses the Indus and enters the N.W.F. Province. The greater part of the section from Karnal to Lahore had been completed some years before the Mutiny, that from Lahore to Peshawar was finished in 1863-64. A great loop road connects our arsenal at Ferozepore with the Grand Trunk Road at Lahore and Ludhiana. The fine metalled roads from Ambala to Kalka, and Kalka to Simla have lost much of their importance since the railway was brought to the hill capital. Beyond Simla the Kilka-Simla road is carried on for 150 miles to the Shipki Pass on the borders of Tibet, being maintained as a very excellent hill road adapted to mule carriage. A fine tonga road partly in the plains and partly in the hills joins Murree with Rawalpindi.

From Murree it drops into the Jhelam valley crossing the river and entering Kashmir at Kohala. It is carried up the gorge of the Jhelam to Baramiila and thence through the Kashmir valley to Srinagar. A motor-car can be driven all the way from Rawalpindi to Srinagar. In the N.W.F. Province a great metalled road connects Peshawar, Kohat, Bannu, and Dera Ismail Khan.



Fig. 43. Poplar lined road to Srinagar.

Railways. Main Lines.—It is just over fifty years since the first railway, a short line joining Lahore and Amritsar, was opened in 1862. Three years later Lahore was linked up with Multan and the small steamers which then plied on the Indus. Amritsar was connected with Delhi in 1870, and Lahore with Peshawar in 1883. The

line from Peshawar to Lahore, and branching thence to Karachi and Delhi may be considered the Trunk Line. The railway service has been enormously developed in the past thirty years. In 1912 there were over 4000

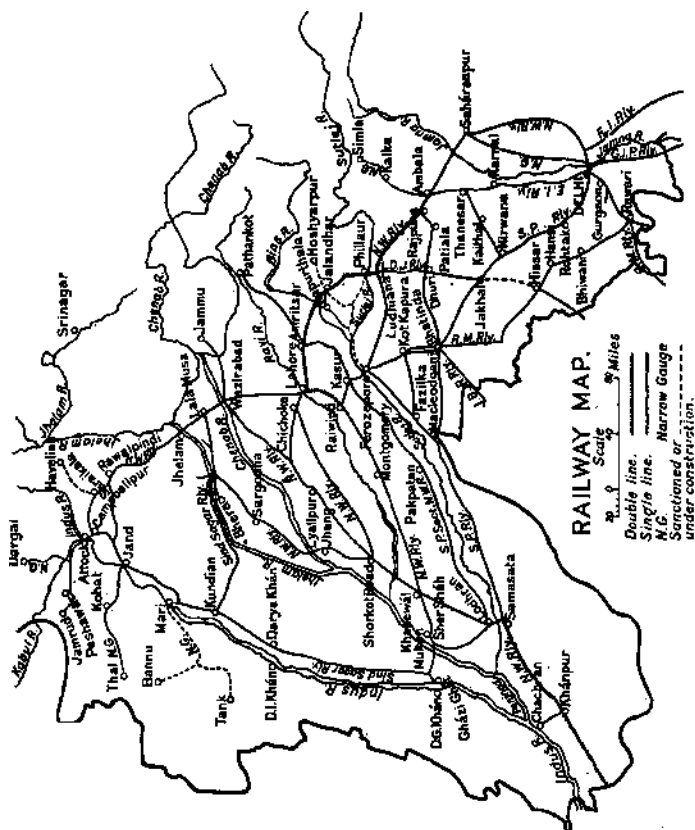


Fig. 44. Map showing railways.

miles of open lines. There are now three routes from Delhi to Lahore:

(a) The N.W. Railway via Meerut and Saharanpur

(on east of Jamna), and Amtala, Ludhidna, Jalandhar, Amritsar;

(b) The Southern Panjab Railway *via* Jind, Rohtak, Bhatinda, and Ferozepore ;

(c) The Delhi-Ambala-Kalka branch of the East Indian Railway from Delhi through Karnal to Ambala, and thence by the N.W. Railway. This is the shortest route.

The Southern Panjab Railway also connects Delhi with Karachi through its junction with the N.W. Railway at Samasata to the south of Bahawalpur. Another route is by a line passing through Rewari and the Merta junction. Karachi is the natural seaport of the central and western Panjab. The S.P. Railway now gives an easy connection with Ferozepore and Ludhiana, and the enormous export of wheat, cotton, etc. from the new canal colonies is carried by several lines which converge at Khanewal, a junction on the main line, a little north of Multan.

Railways. Minor Lines.—The Sind Sagar branch starting from Lala Musa between Lahore and Amritsar with smaller lines taking off further north at Golra and Campbellpur serves the part of the province lying north of the Salt Range. These lines converge at Kundian in the Mianwali district, and a single line runs thence southwards to points on the Indus opposite Dera Ismail Khan and Dera Ghazi Khan, and turning eastwards rejoins the trunk line at Sher Shah near Multan. There are a number of branch lines in the plains, some owned by native States. Strategically a very important one is that which crossing the Indus by the Khushalgarh bridge unites Rawalpindi with Kohat. The only hill railway is that from Kalka to Simla. A second is now under construction which, when completed, will connect Rawalpindi with Srinagar. All these lines with the

exception of the branch of the E I. Railway mentioned above are worked by the staff of the N W. State Railway, whose manager controls inside and outside the Pan jab some 5000 miles of open line. The interest earned in 1912 was $4\frac{1}{2}$ p.c, a good return when it is considered that the parts of the system to the north of the Salt Range and the Sind Sagar railway were built primarily for strategic reasons.

CHAPTER XIII

CANALS

Importance of Canals.—One need have no hesitation in placing among the greatest achievements of British rule in the Pan jab the magnificent system of irrigation canals which it has given to the province. Its great alluvial plain traversed by large rivers drawing an unfailing supply of water from the Himalayan snows affords an ideal field for the labours of the canal engineer. The vastness of the arid areas which without irrigation yield no crops at all or only cheap millets and pulses makes his works of inestimable benefit to the people and a source of revenue to the State.

Canals before annexation.—In the west of the province we found in existence small inundation canals dug by the people with some help from their rulers. These only ran during the monsoon season, when the rivers were swollen. In 1626 Shahjahan's Persian engineer, Ali Mardan Khan, brought to Delhi the water of the canal dug by Firoz Shah as a monsoon channel and made perennial by Akbar. But during the paralysis of the central power in the eighteenth century the channels became silted up. The same able engineer dug a canal from the Ravi near Madhopur to water the royal gardens at Lahore. What remained of this work at annexation was known as the Haslf.

Extent of Canal Irrigation'—In 1911-12, when the deficiency of the rainfall made the demand for water

keen, the canals of the Panjab and the N.W.F. Province irrigated 8\ millions of acres. The figures are:

Panjab

.. Permanent Canals	Acres	Interest earned %
1. Western Jamna	775,450	7½
2. Sirhind	1,609,458	8
3. Upper Bari Doab ..	1,156,808	11½
4. Lower Chenab	2,334,090	34
5. Lower Jhelam	801,649	10 ½
. Monsoon Canals	1,654,437	
Total	8,331,892	

N.W. Frontier Province

	Acres	Interest earned %
ower Swat River	157,650	9½
wo minor Canals	67,510	
Total	225,160	

On the Sirhind Canal, on which the demand fluctuates greatly with the character of the season, the area was twice the normal. The three canals of the Triple Project will, when fully developed, add 1,871,000 acres to the irrigated area of the Panjab, and the Upper Swat Canal will increase that of the N.W.F. Province by 381,000 acres. The canals will therefore in a year of drought be able to water over ten millions of acres without taking account of possible extensions if a second canal should be drawn from the Sutlej. The money spent from imperial funds on Panjab canals has exceeded twelve millions sterling, and no money has ever been better spent. In 1910-n, when the area irrigated was a good deal less than in 1911-12, the value of the crops raised by the use of canal water was estimated at about 207 millions of rupees or nearly £14,000,000. It is only possible to note very briefly the steps by which this remarkable result has been achieved.

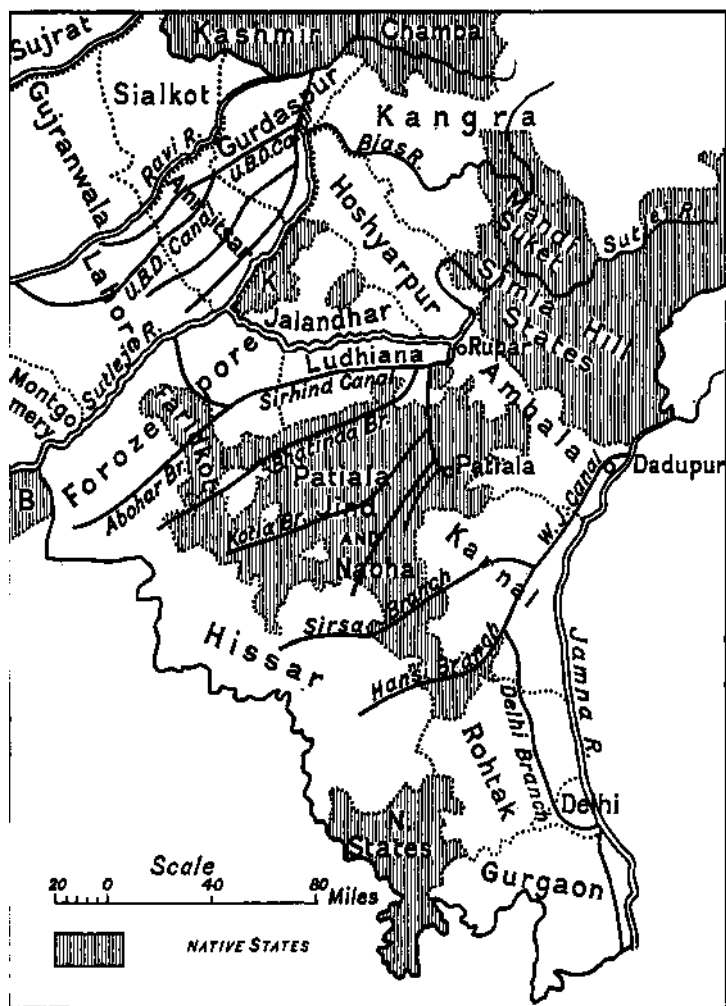


Fig. 45. Map—Older Canals.

Western Jamna Canal.—Soon after the assumption of authority at Delhi in 1803 the question of the old Canal from the Jamna was taken up. The Delhi Branch was reopened in 1819, and the Hansf Branch six years later. In the famine year 1837-38 nearly 400,000 acres were irrigated. For more than half a century that figure represented the irrigating capacity of the canal. The English engineers in the main retained the faulty Moghal alignment, and waterlogging of the worst description developed. The effect on the health of the people was appalling. After long delay the canal was remodelled. The result has been most satisfactory in every way. In the last decade of the nineteenth century the Sirsa Branch and the Nardak Distributary were added, to carry water to parts of the Karnal and Hissar districts where any failure of the monsoon resulted in widespread loss of crops. If a scheme to increase the supply can be carried out, further extension in tracts now very liable to famine will become possible. In the six years ending 1910-11 the interest earned exceeded 8 p.c.

Upper Ban Doab Canal.—The headworks of the Upper Bar! Doab Canal are above Madhopur near the point where the Ravi leaves the hills. The work was started soon after annexation, but only finished in 1859. Irrigation has grown from 90,000 acres in 1860-61 to 533,000 in 1880-81, 861,000 in 1900-1, and 1,157,000 in 1911-12. The later history of the canal consists mainly of great extensions in the arid Lahore district, and the irrigation there is now three-fifths of the whole. In parts of Amritsar, and markedly near the city, waterlogging has become a grave evil, but remedial measures have now been undertaken. The interest earned on the capital expenditure in the six years ending 1910-n averaged 11½ p.c.

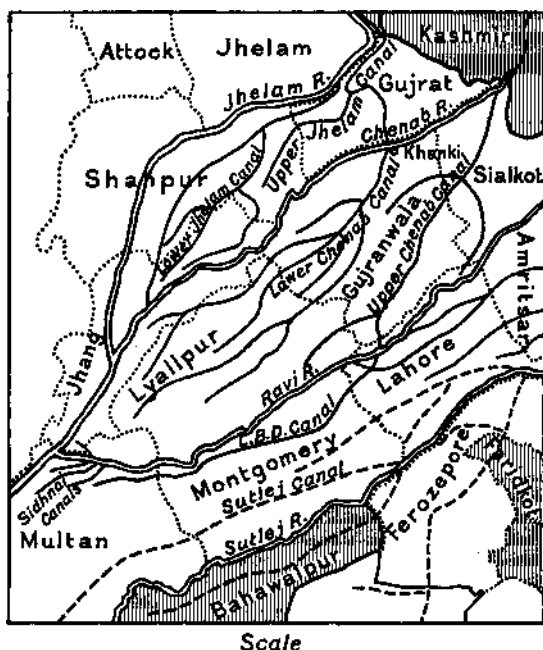
Sirhind Canal.—A quarter of a century passed after

the Upper Barf Doab Canal began working before the water of the Sutlej was used for irrigation. The Sirhind Canalweir is at Rupar where the river emerges from the Siwaliks. Patiala, Jind, and Nabha contributed to the cost, and own three of the five branches. But the two British branches are entitled to nearly two-thirds of the water, which is utilized in the Ludhiana and Ferozepore districts and in the Faridkot State. The soil of the tract commanded is for the most part a light sandy loam, and in years of good rainfall it repays dry cultivation. The result is that the area watered fluctuates largely. But in the six years ending 1910-11 the interest earned averaged 7 p.c, and the power of expansion in a bad year is a great boon to the peasantry.

Canal extensions in Western Panjab.—In the last quarter of a century the chief task of the Canal Department in the Panjab has been the extension of irrigation to the Rechna and Jech Doabs and the lower part of the Bari Doab. All three contained large areas of waste belonging to the State, mostly good soil, but incapable of cultivation owing to the scanty rainfall. Colonization has therefore been an important part of all the later canal projects. The operations have embraced the excavation of five canals.

Lower⁴ Chenab Canal.—The Lower Chenab Canal is one of the greatest irrigation works in the world, the area commanded being $3\frac{1}{3}$ billion acres, the average discharge four or five times that of the Thames at Teddington, and the average irrigated area $2\frac{1}{4}$ million acres. There are three main branches, the Rakh, the Jhang, and the Gugera. The supply is secured by a great weir built across the Chenab river at Khanki in the Gujranwala district, and the irrigation is chiefly in the Gujranwala, Lyallpur, and Jhang districts. In the four years ending 1911-12 the average interest

earned was 28 p.c, and in future the rate should rarely fall below 30 p.c. The capital expenditure has been a little over £2,000,000. The interest charges were cleared about five years after the starting of irrigation, and the capital has already been repaid to the State twice over.



i l l Native States.

Fig. 46. Map—Canals.

Lower Jhelam Canal.—The Lower Jhelam Canal, which waters the tract between the Jhelam and Chenab in the Shdhpur and Jhang districts, is a smaller and less profitable work. The culturable commanded area is about one million acres. The head-works are at Rasiil in the Gujrat district. Irrigation began in 1901. In the

four years ending 1911-12 the average area watered was 748,000 acres and the interest earned exceeded 10 p.c.

Triple Project—Upper Jhelam and Upper Chenab Canals and Lower Bari Doab Canal.—The Lower Chenab Canal takes the whole available supply of the Chenab river. But it does not command a large area in the Rechna Doab lying in the west of Gujranwala, in which rain cultivation is very risky and well cultivation is costly. No help can be got from the Ravi, as the Upper Bari Doab Canal exhausts its supply. Desirable as the extension of irrigation in the areas mentioned above is, the problem of supplying it might well have seemed insuperable. The bold scheme known as the Triple Project which embraces the construction of the Upper Jhelam, Upper Chenab, and Lower Bari Doab Canals, is based on the belief that the Jhelam river has even in the cold weather water to spare after feeding the Lower Jhelam Canal. The true *raison d'être* of the Upper Jhelam Canal, whose head-works are at Mangla in Kashmir a little north of the Gujrat district, is to throw a large volume of water into the Chenab at Khanki, where the Lower Chenab Canal takes off, and so set free an equal supply to be taken out of the Chenab higher up at Meralia in Sialkot, where are the head-works of the Upper Chenab Canal. But the Upper Jhelam Canal will also water annually some 345,000 acres in Gujrat and Shahpur. The Upper Chenab Canal will irrigate 648,000 acres mostly in Gujranwala, and will be carried across the Ravi by an aqueduct at Balloke in the south of Lahore. Henceforth the canal is known as the Lower Bari Doab, which will water 882,000 acres, mostly owned by the State, in the Montgomery and Multan districts. On the other two canals the area of Government land is not large. The Triple Project is approaching completion, and irrigation from the Upper Chenab

Canal has begun. The engineering difficulties have been great, and the forecast does not promise such large gains as even the Lower Jhelam Canal. But a return of $7\frac{1}{2}$ p.c. is expected.

Monsoon or Inundation Canals.—The numerous monsoon or inundation canals, which take off from the Indus, Jhelam, Chenab, Ravi, and Sutlej, though individually petty works, perform an important office in the thirsty south-western districts. By their aid a *kharif* crop can be raised without working the wells in the hot weather, and with luck the fallow can be well soaked in autumn, and put under wheat and other spring crops. For the maturing of these crops a prudent cultivator should not trust to the scanty cold weather rainfall, but should irrigate them from a well. The Sidhnai has a weir, but may be included in this class, for there is no assured supply at its head in the Ravi in the winter. In 1910-11 the inundation canals managed by the State watered 1,800,000 acres. There are a number of private canals in Ferozepore, Shahpur, and the hill district of Kangra. In Ferozepore the district authorities take a share in the management.

Colonization of Canal Lands.—The colonization of huge areas of State lands has been an important part of new canal schemes in the west of the Panjab. When the Lower Chenab Canal was started the population of the vast Bar tract which it commands consisted of a few nomad cattle owners and cattle thieves. It was a point of honour to combine the two professions. Large bodies of colonists were brought from the crowded districts of the central Panjab. The allotments to peasants usually consisted of 55 acres, a big holding for a man who possibly owned only four or five acres in his native district. There were larger allotments known as yeoman and capitalist grants, but the peasants are

the only class who have turned out quite satisfactory farmers. Colonization began in 1892 and was practically complete by 1904, when over 1,800,000 acres had been allotted. To save the peasants from the evils which an unrestricted right of transfer was then bringing on the heads of many small farmers in the Panjab it was decided only to give them permanent inalienable tenant right. The Panjab Alienation of Land Act, No. XIII of 1900, has supplied a remedy generally applicable, and the peasant grantees are now being allowed to acquire ownership on very easy terms. The greater part of the colony is in the new Lyallpur district, which had in 1911 a population of 857,511 souls.

On the Lower Jhelam Canal the area of colonized land exceeds 400,000 acres. A feature of colonization on that canal is that half the area is held on condition of keeping up one or more brood mares, the object being to secure a good class of remounts. Succession to these grants is governed by primogeniture. On the Lower Barf Doab Canal a very large area is now being colonized.

Canals of the N.W.F. Province.—Hemmed in as the N.W.F. Province is between the Indus and the Hills, its canals are insignificant as compared with the great irrigation works of the Panjab. The only ones of any importance are in the Peshawar Valley. These draw their supplies from the Kabul, Bara, and Swat rivers, but the works supplied by the first two streams only command small areas. The Lower Swat Canal was begun in 1876, but the tribesmen were hostile and the diggers had to sleep in fortified enclosures. The work was not opened till 1885. A reef in the river has made it possible to dispense with a permanent weir. The country is not an ideal one for irrigation, being much cut up by ravines. But a large area has been brought

under command, and the irrigation has more than once exceeded 170,000 acres. In 1911-12 it was 157,650 acres, and the interest earned was $9\frac{3}{4}$ p.c. The Upper Swat Canal, which was opened in April 1914, was a

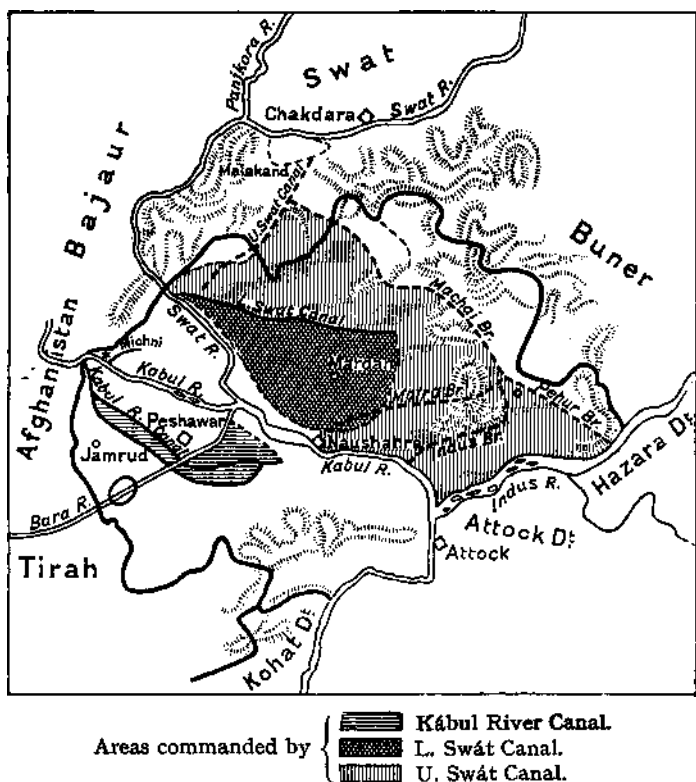


Fig. 47. Map of Canals of Peshawar district.

more ambitious project, involving the tunnelling at the Malakand of 11,000 feet of solid rock. The commanded area is nearly 450,000 acres, including 40,000 beyond our administrative frontier. The estimated cost is Rs. 18,240,000 or over £1,200,000 and the annual irrigation expected is 381,562 acres.

CHAPTER XIV

AGRICULTURE AND CROPS

Classification by Zones.—In order to give an intelligible account of the huge area embraced by the Panjab, N.W.F. Province, and Kashmir it is necessary to make a division of the area into zones. Classification must be on very broad lines based on differences of altitude, rainfall, and soil, leading to corresponding differences in the cultivation and the crops. For statistical purposes districts must be taken as a whole, though a more accurate classification would divide some of them between two zones.

Classes of Cultivation.—The broadest division of cultivation is into irrigated and unirrigated, the former including well (*chdhi*), canal (*nahri*), and *dbi*. The last term describes a small amount of land watered from tanks or *Jhils* in the plains and a larger area in the hills irrigated by *kuhls* or small artificial channels "Unirrigated" embraces cultivation dependent on rain (*bdrdni*) or on flooding or percolation from rivers (*saildb*). (See Table II.)

Harvests.—There are two harvests, the autumn or *kharif*, and the spring or *rabi*. The autumn crops are mostly sown in June and July and reaped from September to December. Cotton is often sown in March. Cane planted in March and cut in January and February is counted as a *kharif* crop. The spring crops are sown from the latter part, of September to the end of December.

They are reaped in March and April. Roughly in the Panjab three-fifths of the crops belong to the spring harvest. In the N.W.F. Province the proportion is somewhat higher. In Kashmir the autumn crop is by far the more important.

Implements of Husbandry and Wells.—The implements of husbandry are simple but effective in a land where as a rule there is no advantage in stirring up the soil



Fig. 48. Persian Wheel Well and Ekka.

very deep. With his primitive plough (*hal*) and a wooden clodcrusher (*sohdga*) the peasant can produce a tilth for a crop like cane which it would be hard to match in England. There are two kinds of wells, the *charsa* or rope and bucket well and the *harat* or Persian wheel.

Rotations.—The commonest rotation in ordinary loam soils is to put in a spring and autumn crop in succession

and then let the land lie fallow for a year. Unless a good deal of manure is available this is the course to follow, even in the case of irrigated land. Some poor hard soils are only fit for crops of coarse rice sown after the embanked fields have been filled in the monsoon by drainage from surrounding waste. Other lands are cropped only in the autumn because the winter rainfall is very scanty. Flooded lands are often sown only for the spring harvest.

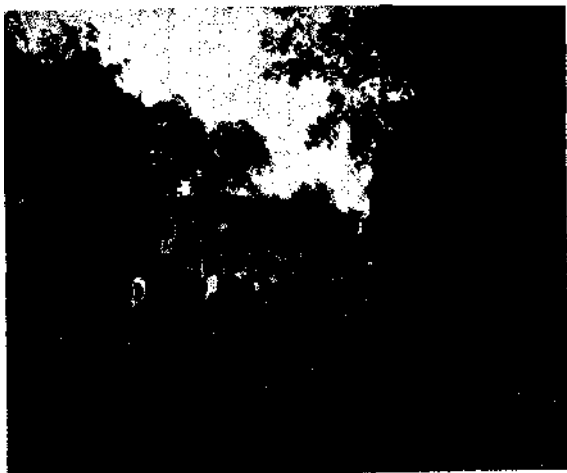


Fig. 49. A drove of goats—Lahore.

Cattle, Sheep, and Goats.—In 1909 there were in the British districts of the Panjab 4½ million bullocks and 625,000 male buffaloes available to draw 2,169,000 ploughs and 288,000 carts, thresh the corn, and work a quarter of a million wells, besides sugar, oil, and flour mills. The cattle of the hills, N.W. Panjab, and riverain tracts are undersized, but in the uplands of the Central Panjab and S.E. districts fine oxen are used. The horned cattle share 1½ millions of pasture land, much

extremely poor, with 4 million sheep and 5 ½ million goats. Hence the enormous area devoted to fodder crops.

Zones.—Six zones can be distinguished, but, as no district is wholly confined to the mountain zone, it must for statistical purposes be united to the submontane zone:

(a) Mountain above 5000 feet	Panjab—Kangra, Simla, Native J States in Hills, Ambala, Hoshiarpur.
(b) Submontane	N.W.F. Province. Hazara, Kashmir—whole
(c) North Central Plain	Panjab—Gujrat, Sialkot, Gur- daspur, Amritsar, Jalandhar, Ludhiana, Kapurthala, Malerkotla, Powadh tract in Phulkian States.
(d) North-West Area	Panjab—Rawalpindi, Jhelam, Attock, Mianwali. N.W.F.P.—Peshawar, Kohat, Bannu.
(e) South-Western Plains	Panjab—Gujranwala, Lahore, Shahpur, Jhang, Lyallpur, Montgomery, Multan, Mu- zaffargarh, Dera Ghazi Khan, Bahawalpur. N.W.F.P.—Dera Ismail Khan.
(f) South-Eastern Area	Panjab—Karnal, Rohtak, Gur- gon, Hissar, Ferozepore, Faridkot, Jangal tract in Phulkian States, Native States territory adjoining Gurgaon and Rohtak.

Mountain and Submontane Zones.—In the Mountain Zone the fields are often very minute, consisting of narrow terraces supported by stone revetments built up the slopes of hills. That anyone should be ready to spend time and labour on such unpromising material is a sign of pressure of population on the soil, which is a marked feature of some hill tracts.

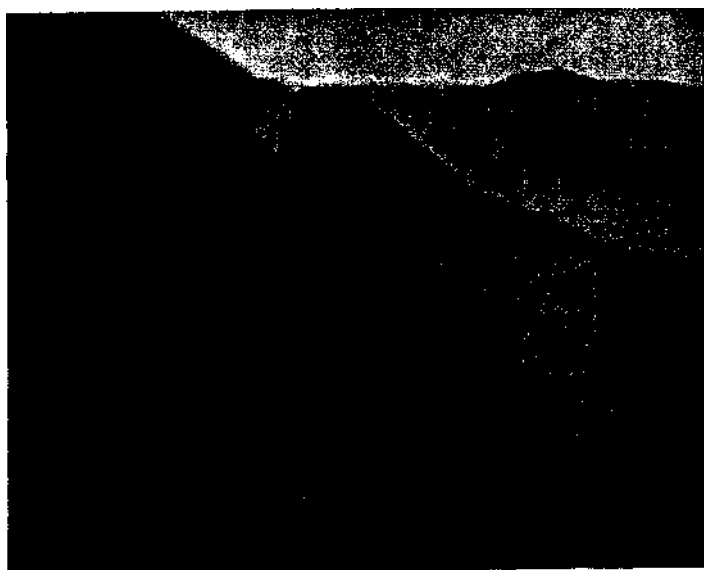


Fig. 50. A steep bit of hill cultivation, Hazara.

Below 8000 feet the great crop is maize. Potatoes have been introduced near our hill stations. The chief pulse of the mountain zone is *kulath* (*Dolichos biflorus*), eaten by the very poor. Wheat ascends to 8000 or 9000 feet, and at the higher levels is reaped in August. Barley is grown at much • greater heights. Buckwheat (*ugal*,

truniba, *drdwi*), amaranth (*chauldi*, *ganhdr*, *saridra*), and a tall chenopod (*bathu*) are grown in the mountain zone. Buckwheat is common on poor stony lands.

The only comparatively flat land is on the banks above river beds, which are devoted to rice cultivation, the water being conducted to the embanked fields by an elaborate system of little canals or *kuhls*. This is



Fig. 51. Preparing rice field in the Hills.

the only irrigation in the mountains, and is much valued. The Submontane Zone has a rainfall of from 30 to 40 inches. Well irrigation is little used and the dry crops are generally secure. Wheat and maize are the great staples, but gram and *chart*, i.e. *jowar* grown for fodder, are also important. Some further information about Kashmir agriculture will be found in a later chapter. For

full details about classes of cultivation and crops in all the zones Tables II, III and IV should be consulted.

North Central Panjab Plain.—The best soils and the finest tillage are to be found in the North Central Zone. Gujrat has been included in it, though it has also affinities in the north with the North-West area, and in the south with the South-Western plain. The rainfall varies from 25 to 35 inches. One-third of the cultivated area is protected by wells, and the well cultivation is of a very high class in Ludhiana and Jalandhar, where heavily manured maize is followed by a fine crop of wheat, and cane is commonly grown. In parts of Sialkot and Gujrat the well cultivation is of a different type, the area served per well being large and the object being to protect a big acreage of wheat in the spring harvest. The chief crops in this zone are wheat and *chart*. The latter is included under "Other Fodder" in Tables III and IV.

North-Western Area.—The plateau north of the Salt Range has a very clean light white sandy loam soil requiring little ploughing and no weeding. It is often very shallow, and this is one reason for the great preference for cold weather crops. *Kharif* crops are more liable to be burned up. Generally speaking the rainfall is from 15 to 25 inches, the proportion falling in the winter and spring being larger than elsewhere. There is, except in Peshawar and Bannu, where the conditions involve a considerable divergence from the type of this zone, practically no canal irrigation. The well irrigation is unimportant and in most parts consists of a few acres round each well intensively cultivated with market-gardening crops. The dry crops are generally very precarious. In Mianwali the Indus valley is a fine tract, but the harvests fluctuate greatly with the extent of the floods. The Thal in Mianwali to the south of the Sind Sagar railway is really a part of the next zone.

The South-Western Plains.—This zone contains nine districts. With the exception of the three on the north border of the zone they have a rainfall of from 5 to 10 inches. Of these six arid districts, only one, Montgomery, has any dry cultivation worth mentioning. In the zone as a whole three-fourths of the cultivation is protected by canals or wells, or by both. In the lowlands near the great rivers cultivation depends on the floods brought to the land direct or through small canals which carry water to parts which the natural overflow would not reach. In the uplands vast areas formerly untouched by the plough have been brought under tillage by the help of perennial canals, and the process of reclamation is still going on. The Thal is a large sandy desert which becomes more and more worthless for cultivation as one proceeds southwards. In the north the people have found out of late years that this unpromising sand can not only yield poor *kharif* crops, but is worth sowing with gram in the spring harvest. The expense is small, and a lucky season means large profits. In Dera Ghazi Khan a large area of "*pat*" below the hills is dependent for cultivation on torrents. The favourite crop in the embanked fields into which the water is diverted is *jowar*.

The South-Eastern Plains.—In the south-eastern Panjab except in Hissar and the native territory on the border of Rajputana, the rainfall is from 20 to 30 inches. In Hissar it amounts to some 15 inches. These are averages; the variations in total amount and distribution over the months of the year are very great. In good seasons the area under dry crops is very large, but the fluctuations in the sown acreage are extraordinary, and the matured is often far below the sown area. The great crops are gram and mixtures of wheat or barley with gram in the spring, and *bdjra* in the autumn, harvest. Well cultivation is not of much importance

generally, though some of it in the Jamna riverain is excellent. The irrigated cultivation depends mainly on the Western Jamna and Sirhind canals, and the great canal crops are wheat and cotton. This is the zone in which famine conditions are still most to be feared.

In the Pan jab as a whole about one-third of the cultivated area is yearly put under wheat, which with *bdjra* and maize is the staple food of the people. A large surplus of wheat and oil-seeds is available for export.



Fig. 52. Carved doorway.

CHAPTER XV

HANDICRAFTS AND MANUFACTURES

Handicrafts.—The chief handicrafts of the province are those of the weaver, the shoemaker, the carpenter, the potter, and the worker in brass and copper. The figures of the 1911 census for each craft including dependents were : weavers 883,000 ; shoemakers 540,000 ; carpenters 381,000 ; potters and brickmakers 349,000 ; metalworkers 240,000. The figures for weavers include a few working in factories. The hand-spun cotton-cloth is a coarse strong fabric known as "*khaddar*" with a single warp and weft. "*Khes*" is a better article with a double warp and weft. "*Susi*" is a smooth cloth with coloured stripes used for women's trousers. A superior kind of checked "*khes*" known as "*gabrun*" is made at Ludhiana. The native process of weaving is slow and the weavers are very poor. The Salvation Army is trying to introduce an improved hand loom. Fine "*lungis*" or turbans of cotton with silk borders are made at Ludhiana, Multan, PesMwar, and elsewhere. Effective cotton printing is carried on by very primitive methods at Kot Kamalia and Lahore. Ludhiana and Lahore turn out cotton *daris* or rugs. Coarse woollen blankets or *lots* are woven at various places, and coloured felts or *namdas* are made at Ludhiana, Khushab, and Peshawar. Excellent imitations of Persian carpets are woven at Amritsar, and the Srinagar carpets do credit to the Kashmiris' artistic

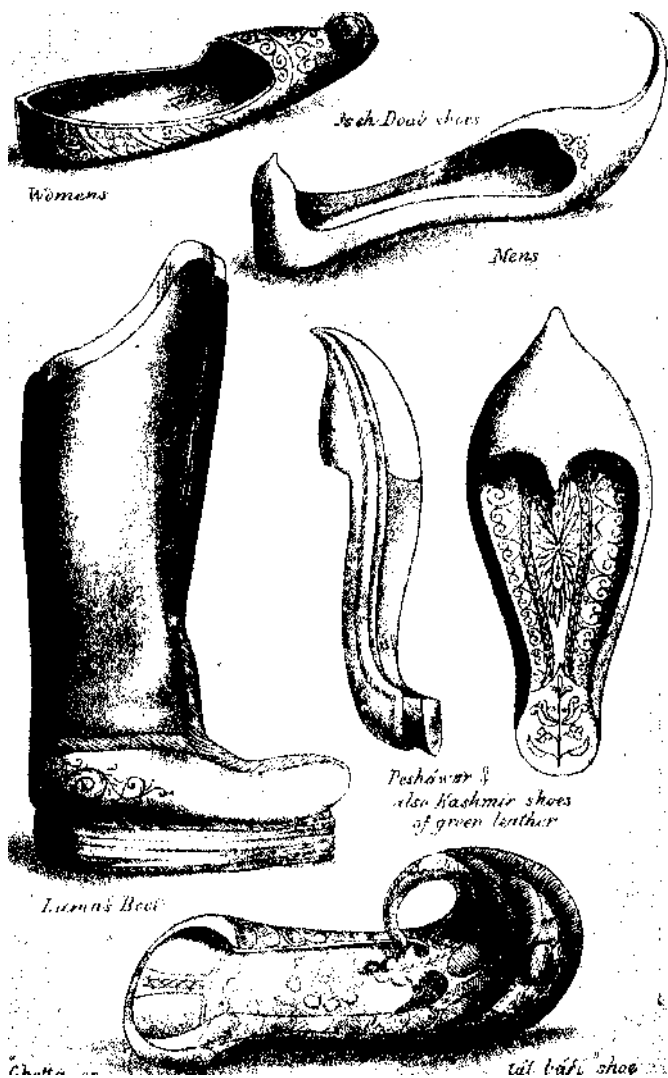


Fig- 53- Shoemaker's craft.

taste. The best of the Amritsar carpets are made of *pashm*, the fine underwool of the Tibetan sheep, and *pashmina* is also used as a material for *choghas* (dressing-gowns), etc. Coarse woollen cloth or *pattu* is woven in the Kangra hills for local use. At Multan useful rugs are made whose fabric is a mixture of cotton and wool. More artistic are the Biluch rugs made by the Biluch women with geometrical patterns. These are excellent in colouring. They are rather difficult to procure as they are not made for sale. The weaving of China silk is a common industry in Amritsar, Bahawalpur, Multan, and other places. The *phulkdri* or silk embroidery of the village maidens of Hissar and other districts of the Eastern Panjab, and the more elaborate gold and silver wire embroideries of the Delhi *bazars*, are excellent. The most artistic product of the plains is the ivory carving of Delhi. As a wood-carver the Panjabi is not to be compared with the Kashmiri. His work is best fitted for doorways and the bow windows or *bokharchas* commonly seen in the streets of old towns. The best carvers are at Bhera, Chiniot, Amritsar, and Batala. The European demand has produced at Simla and other places an abundant supply of cheap articles of little merit. The inlaid work of Chiniot and Hoshiarpur is good, as is the lacquer-work of Pakpattan. The papier maché work of Kashmir has much artistic merit (Fig. 55), and some of the repousse silver work of Kashmir is excellent.

The craft of the *thathera* or brass worker is naturally most prominent in the Eastern Panjab, because Hindus prefer brass vessels for cooking purposes. Delhi is the great centre, but the trade is actively carried on at other places, and especially at Jagadhri.

Unglazed pottery is made practically in every village. The blue enamelled pottery of Multan and the glazed

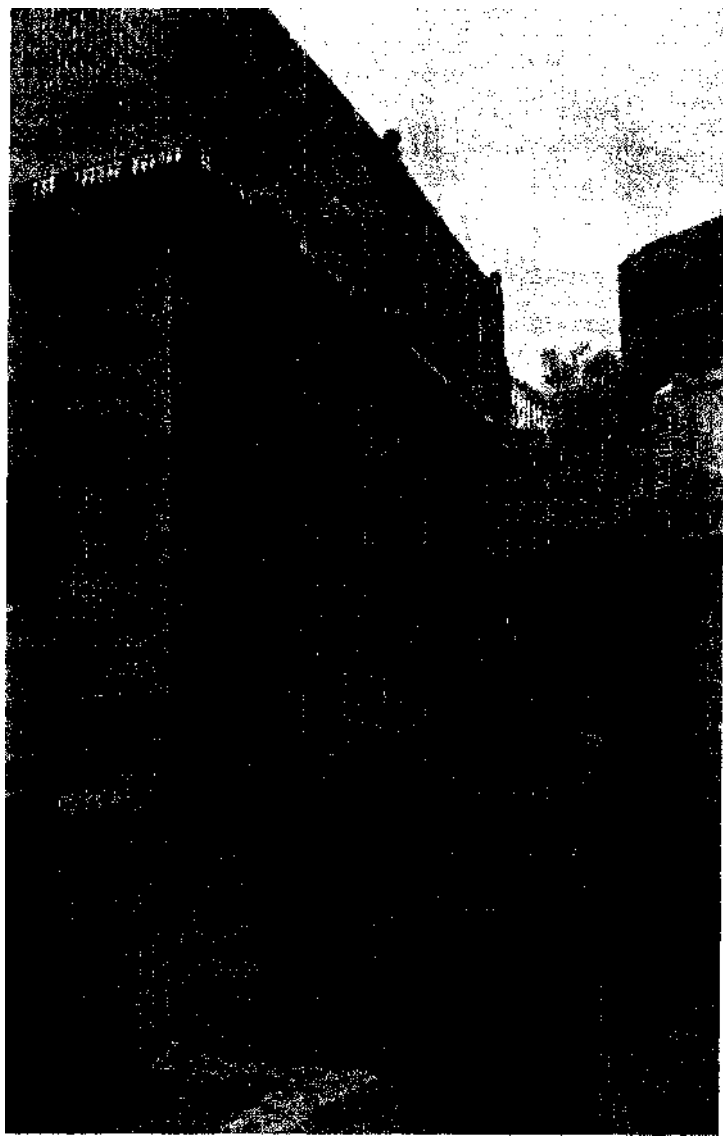


Fig. 54. Carved windows.

Delhi china ware are effective. The manufacture of the latter is on a very petty scale.

Factories.—The factory industries of the Pan jab are still very small. In 1911 there were 268 factories employing 28,184 hands. The typical Panjab factory is a little cotton ginning or pressing mill. The grinding of flour and husking of rice are sometimes part of the same

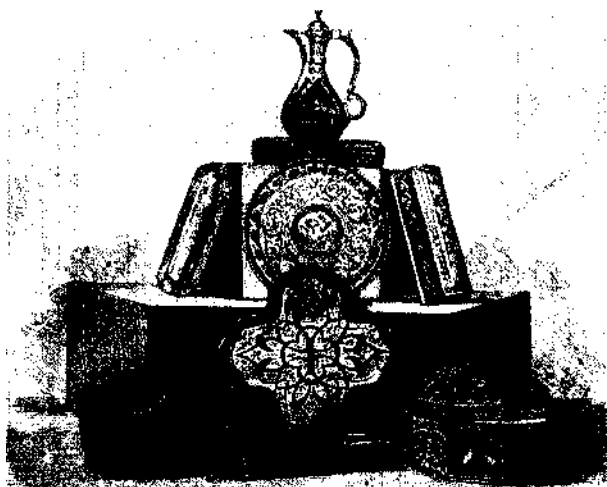


Fig. 55. Papier mache work of Kashmir.

business. The number of these mills rose in the 20 years ending 1911 from 12 to 202, and there are complaints that there are now too many factories. Cotton-spinning has not been very successful and the number of mills in 1911, eight, was the same as in 1903-4. The weaving is almost entirely confined to yarn of low counts. Part is used by the hand-loom weavers and part is exported to the United Provinces. Good woollen fabrics are

turned out at a factory at Dhariwal in the Gurdaspur district. There were in 1911 fifteen flour mills, ten ironworks, three breweries, and one distillery.

Joint-Stock Companies.—The Panjab has not reached the stage where the joint-stock business successfully takes the place of the family banking or factory business.



Fig. 56. The Potter.

(From a picture book said to have been prepared for Maharaja Dalip Singh.)

In 1911 there were 194 joint-stock companies. But many of these were provident societies, the working of which has been attended with such abuses that a special act has been passed for their control. A number of banks and insurance companies have also sprung up of late years. Of some of these the paid up capital is absurdly small, and the recent collapse of the largest and of two

smaller native banks has drawn attention to the extremely risky nature of the business done. Of course European and Hindu family banking businesses of the old type stand on quite a different footing. Some of the cotton and other mills are joint-stock concerns.

CHAPTER XVI

EXPORTS AND IMPORTS

Trade.—In 1911-12 the exports from the Panjab, excluding those by land to Central Asia, Ladakh, and Afghanistan, were valued at Rs. 27,63,21,000 (£18,421,000), of which 61 p.c. went to Karachi and about 10 p.c. to Calcutta and Bombay. Of the total 27 p.c. consisted of wheat, nearly the whole of which was dispatched to Karachi. All other grains and pulses were about equal in value to the wheat. "Gram and other pulses" (18 p.c. of total exports) was the chief item. Raw cotton accounts for 15, and oil-seeds for 10 p.c. The imports amounted in value to Rs. 30,01,28,000 (£20,008,000), little more than one-third being received from Karachi. Cotton piece goods (Foreign 22, Indian 8½ p.c.) make up one-third of the total. The other important figures are sugar 12, and metals 11 p.c. The land trade with Afghanistan, Central Asia, and Ladakh is insignificant, but interesting as furnishing an example of modes of transport which have endured for many centuries, and of the pursuit of gain often under appalling physical difficulties.

CHAPTER XVII

HISTORY—PRE-MUHAMMADAN PERIOD, 500 B.C.-1000 A.D.

In Hindu period relations of Panjab were with western kingdoms.—The large tract included in the British province of the Panjab which lies between the Jamna and the Ghagar is, having regard to race, language, and past History, a part of Hindustan. Where "Panjab" is used without qualification in this section the territories west of the Ghagar and south of Kashmir are intended. The true relations of the Panjab and Kashmir during the Hindu period were, except for brief intervals, with Persia, Afghanistan, and Turkistan rather than with the great kingdoms founded in the valley of the Ganges and the Jamna.

Normal division into petty kingdoms and tribal confederacies.—The normal state of the Panjab in early times was to be divided into a number of small kingdoms and tribal republics. Their names and the areas which they occupied varied from time to time. Names of kingdoms that have been rescued from oblivion are Gandhara, corresponding to Peshawar and the valley of the Kabul river, Urasa or Hazara, where the name is still preserved in the Orash plain, Taxila, which may have corresponded roughly to the present districts of Rawalpindi and Attock with a small part of Hazara, Abhisara or the low hills of Jammu, Kashmir, and Trigartta, with its capital Jalandhara, which occupied most of the Jalandhar division

north of the Sutlej and the states of Chamba, Suket, and Mandf. The historians of Alexander's campaigns introduce us also to the kingdoms of the elder Poros on both banks of the Jhelam, of the younger Poros east of the Chenab, and of Sophytes (Saubhuti) in the neighbourhood of the Salt Range. We meet also with tribal confederacies, such as in Alexander's time those of the Kathaioi on the upper, and of the Malloi on the lower, Ravi.

Invasion by Alexander, 327-325 B.C.—The great Persian king, Darius, in 512 B.C. pushed out the boundary of his empire to the Indus, then running in a more easterly course than to-day¹. The army with which Xerxes invaded Greece included a contingent of Indian bowmen². When Alexander overthrew the Persian Empire and started on the conquest of India, the Indus was the boundary of the former. His remarkable campaign lasted from April, 327 B.C., when he led an army of 50,000 or 60,000 Europeans across the Hindu Kush into the Kabul valley, to October, 325, when he started from Sindh on his march to Persia through Makran. Having cleared his left flank by a campaign in the hills of Buner and Swat, he crossed the Indus sixteen miles above Attock near Torbela. The King of Taxila, whose capital was near the Margalla pass on the north border of the present Rawalpindi district, had prudently submitted as soon as the Macedonian army appeared in the Kabul valley. From the Indus Alexander marched to Taxila, and thence to the Jhelam (Hydaspes), forming a camp near the site now occupied by the town of that name in the country of Poros. The great army of the Indian king was drawn up to dispute the passage probably not very

¹ See Sykes* *History of Persia*, pp. 179-180, also Herodotos m. 94 and 98 and iv. 44.

² "The Indians clad with garments made of cotton had bows of cane and arrows of cane tipped with iron."—Herodotos vii. 65.

far from the eastern end of the present railway bridge. Favoured by night and a monsoon rain-storm—it was the month of July, 326 B.C.—Alexander succeeded in crossing some miles higher up into the Karri plain under the low hills of Gujrat. Here; somewhere near the line now occupied by the upper Jhelam Canal, the Greek soldiers gave the first example of a feat often repeated since, the rout of a large and unwieldy Indian army by a small, but mobile and well-led, European force. Having defeated Poros, Alexander crossed the Chenab (Akesines), stormed Sangala, a fort of the Kathaioi on the upper Ravi (Hydraotes) and advanced as far as the Bias (Hyphasis). But the weary soldiers insisted that this should be the bourn of their eastward march, and, after setting up twelve stone altars on the farther side, Alexander in September, 326 B.C., reluctantly turned back. Before he left the Panjab he had hard fighting with the Malloi on the lower Ravi, and was nearly killed in the storm of one of their forts. Alexander intended that his conquests should be permanent, and made careful arrangements for their administration. But his death in June, 323 B.C., put an end to Greek rule in India. Chandra Gupta Maurya expelled the Macedonian garrisons, and some twenty years later Seleukos Nikator had to cede to him Afghanistan.

Maurya Dominion and Empire of Asoka, 323-231 B.C.—

Chandra Gupta is the Sandrakottos, to whose capital at Pataliputra (Patna) Seleukos sent Megasthenes in 303 B.C. The Greek ambassador was a diligent and truthful observer, and his notes give a picture of a civilized and complex system of administration. If Chandra Gupta was the David, his grandson, Asoka, was the Solomon of the first Hindu Empire. His long reign, lasting from 273 to 231 B.C., was with one exception a period of profound peace deliberately maintained by an emperor who, after

his conversion to the teaching of Gautama Buddha, thought war a sin. Asoka strove to lead his people into the right path by means of pithy abstracts of the moral law of his master graven on rocks and pillars. It is curious to remember that this missionary king was peacefully ruling a great empire in India during the twenty-four years of the struggle between Rome and Carthage, which we call the first Punic War. Of the four Viceroy's who governed the outlying provinces of the empire one had his headquarters at Taxila. One of the rock edicts is at Mansehra in Hazara and another at Shahbazgarhi in Peshawar. From this time and for many centuries the dominant religion in the Panjab was Buddhism, but the religion of the villages may then have been as remote from the State creed as it is to-day from orthodox Brahmanism.

Graeco-Bactrian and Graeco-Parthian Rule.—The Panjab slipped from the feeble grasp of Asoka's successors, and for four centuries it looked not to the Ganges, but to the Kabul and the Oxus rivers.

Up to the middle of the first century of our era it was first under Graeco-Bactrian, and later under Graeco-Parthian, rule directly, or indirectly through local rulers with Greek names or Saka Satraps. The Sakas, one of



Fig. 57. Coin—obverse and reverse of Menander.

the central Asian shepherd hordes, were pushed out of their pastures on the upper Jaxartes by another horde.

the Yuechf. Shadowy Hellenist Princes have left us only their names on coins; one Menander, who ruled about 150 B.C., is an exception. He anticipated the feats of later rulers of Kabul by a temporary conquest of North-western India, westwards to the Jamna and southwards to the sea.

The Kushan Dynasty.—The Yuechi in turn were driven southward to the Oxus and the Kabul valley and under the Kushan dynasty established their authority in the Pan jab about the middle of the first century. The most famous name is that of Kanishka, who wrested from China Kashgar, Yarkand, and Khotan, and assembled a notable council of sages of the law in Kashmir. His reign may be dated from 120 to 150 A.D. His capital was at Purushapura (Peshawar), near which he built the famous relic tower of Buddha, 400 feet high. Beside the tower was a large monastery still renowned in the ninth and tenth centuries as a home of sacred learning. The rule of Kushan kings in the Pan jab lasted till the end of the first quarter of the third century. To their time belong the Buddhist sculptures found in the tracts near their Peshawar capital (see also page 204).

The Gupta Empire.—Of the century preceding the establishment in 320 B.C. of the Gupta dynasty at Patna we know nothing. The Panjab probably again fell under the sway of petty rajas and tribal confederacies, though the Kushan rule was maintained in Peshawar till 465 A.D., when it was finally blotted out by the White Huns. These savage invaders soon after defeated Skanda Gupta, and from this blow the Gupta Empire never recovered. At the height of its power in 400 A.D. under Chandra Gupta II, known as Vikramaditya, who is probably the original of the Bikramajit of Indian legends, it may have reached as far west as the Chenab.

The White Huns- or Ephthalites.—In the beginning of

the sixth century the White Hun, Mahirakula, ruled the Pan jab from Sakala, the modern Sialkot. He was a worshipper of siva, and a deadly foe of the Buddhist cult, and has been described as a monster of cruelty.

The short-lived dominion of the White Huns was destroyed by the Turks and Persians about the year 565 A.D.

Pan jab in seventh century A.D.—From various sources, one of the most valuable being the Memoirs of the Chinese Buddhist pilgrim Hiuen Tsang, who travelled in India from 630 to 644 A.D., we know something of Northern India in the first half of the seventh century. Hiuen Tsang was at Kanauj as a guest of a powerful king named Harsha, whose first capital was at Thanesar, and who held a suzerainty over all the rajas from the Brahmaputra to the Bias. West of that river the king of Kashmir was also overlord of Taxila, Urasa, Parnotsa (Punch), Rajapuri (Rajauri) and Sinhapura, which seems to have included the Salt Range. The Peshawar valley was probably ruled by the Turki Shahiya kings of Kabul. The rest of the Panjab was divided between a kingdom called by Hiuen Tsang Tsekhia, whose capital was somewhere near Sialkot, and the important kingdom of Sindh, in which the Indus valley as far north as the Salt Range was included. Harsha died in 647 A.D. and his empire collapsed.

Kashmir under Hindu Kings.—For the next century China was at the height of its power. It established a suzerainty over Kashmir, Udyana (Swat), Yasin, and Chitral. The first was at this period a powerful Hindu kingdom. Its annals, as recorded in Kalhana's *Rajatarangini*, bear henceforward a real relation to history. In 733 A.D. King Muktapida Lalitaditya received investiture from the Chinese Emperor. Seven years later he defeated the King of Kanauj on the Ganges. A ruler who

carried his arms so far afield must have been very powerful in the Northern Panjab. The remains of the wonderful Mart and temple, which he built in honour of the Sun God, are a standing memorial of his greatness. The history of Kashmir under its Hindu kings for the next 400 years is for the most part that of a wretched people ground down by cruel tyrants. A notable exception was



Fig. 58. Martand Temple.

Avantidharman—855-883 A.D.—whose minister, Suyya, carried out very useful drainage and irrigation works.

The Panjab, 650-1000 A.D.—We know little of Panjab history in the 340 years which elapsed between the death of Harsha and the beginning of the Indian raids of the Sultans of Ghazni in 986-7 A.D. The conquest of the kingdom of Sindh by the Arab general, Muhammad Kasim, occurred some centuries earlier, in 712 A.D. Multan, the city of the Sun-worshippers, was occupied, and part

at least of the Indus valley submitted to the youthful conqueror. He and his successors in Sindh were tolerant rulers. No attempt was made to occupy the Central Pan jab, and when the Turkish Sultan, Sabaktagin, made his first raid into India in 986-7 A.D., his opponent was a powerful raja named Jaipal, who ruled over a wide territory extending from the Hakra to the frontier hills on the north-west. His capital was at Bhatinda. Just about the time when the rulers of Ghazni were laying the train which ended at Delhi and made it the seat of a great Muhammadan Empire, that town was being founded in 993-4 A.D. by the Tunwar Rctjputs, who then held sway in that neighbourhood.

CHAPTER XVIII

HISTORY (*continued*), THE MUHAMMADAN PERIOD,
1000-1764 A.D.

The Ghaznevide Raids.—In the tenth century the Turks were the janissaries of the Abbaside Caliphs of Baghdad, and ambitious soldiers of that race began to carve out kingdoms. One Alptagin set up for himself at Ghazni, and was succeeded in 976 A.D. by his slave Sabaktagin, who began the long series of Indian raids which stained with blood the annals of the next half-century. His son, Mahmud of Ghazni, a ruthless zealot and robber abroad, a patron of learning and literature at home, added the Panjab to his dominions. In the first 26 years of the eleventh century he made seventeen marauding excursions into India. In the first his father's opponent, Jaipal, was beaten in a vain effort to save PesMwar. * Ten years later his successor, Anandpal, at the head of a great army, again met the Turks in the Khaibar. The valour of the Ghakkars had practically won the day, when Anandpal's elephant took fright, and this accident turned victory into rout. In one or other of the raids Multan and Lahore were occupied, and the temples of Kangra (Nagarkot) and Thanesar plundered. In 1018 the Turkish army marched as far east as Kanauj. The one permanent result of all these devastations was the occupation of the Panjab. The Turks made Lahore the capital.

Decline of Buddhism.—The iconoclastic raids of Mahmiid probably gave the *coup de grace* to Buddhism. Its golden age may be put at from 250 B.C. to 200 A.D. Brahmanism gradually emerged from retirement and reappeared at royal courts. It was quite ready to admit Buddha to its pantheon, and by so doing it sapped the doctrine he had taught. The Chinese pilgrim, Fahien, in the early part of the fifth century could still describe Buddhism in the Pan jab as "very flourishing/" and he found numerous monasteries. The religion seems however to have largely degenerated into a childish veneration of relics.

Conquest of Delhi.—For a century and a quarter after the death of Mahmiid in 1030 A.D. his line maintained its sway over a much diminished empire. In 1155 the Afghan chief of Ghor, Ala ud din, the "World-burner" (Jahan-soz), levelled Ghazni with the ground. For a little longer the Ghaznevide Turkish kings maintained themselves in Lahore. Between 1175 and 1186 Muhammad Ghorî, who had set up a new dynasty at Ghazni, conquered Multan, Peshawar, Sialkot, and Lahore, and put an end to the line of Mahmiid. The occupation of Sirhind brought into the field Prithvi Raja, the Chauhan Rajput king of Delhi. In 1191 he routed Muhammad Ghorî at Naraina near Karndl. But *next year* the Afghan came back with a huge host, and this time on the same battlefield fortune favoured him. Prithvi Raja was taken and killed, and Muhammad's slave, Kutbuddin Aibak, whom he left to represent him in India, soon occupied Delhi. In 1203 Muhammad Ghorî had to flee for his life after a defeat near the Oxus. The Ghakkars seized the chance and occupied Lahore. But the old lion, though wounded, was still formidable. The Ghakkars were beaten, and, it is said, converted. A year or two later they murdered their conqueror in his tent near the Indus.

Turkish and Afghans Sultans of Delhi.—He had no son, and his strong viceroy, Kutubuddin Aibak, became in 1206 the first of the 33 Muhammadan kings, who in five successive dynasties ruled from Delhi a kingdom of varying dimensions, till the last of them fell at Panipat in 1526, and Babar, the first of the Moghals, became master of their red fort palace. The blood-stained annals of these 320 years can only be lightly touched on. Under vigorous rulers like the Turki Slave kings, Altamsh (1210-1236) and Balban (1266-1287), a ferocious and masterful boor like Ala ud din Khalji (1296-1316), or a ferocious but able man of culture like Muhammad Tughlak (1325-1351), the local governors at Lahore and Multan were content to be servants. In the frequent intervals during which the royal authority was in the hands of sottish wastrels, the chance of independence was no doubt seized.

Mongol Invasions.—In 1221 the Mongol cloud rose on the north-west horizon. The cruelty of these camel-riding Tatars and the terror they inspired may perhaps be measured by the appalling picture given of their bestial appearance. In 1221, Chingiz Khan descended on the Indus at the heels of the King of Khwarizm (Khiva), and drove him into Sindh. Then there was a lull for twenty years, after which the Mongol war hordes ruined and ravaged the Panjab for two generations. Two great Punjab governors, Sher Khan under Balban and Tughlak under Ala ud din Khalji, maintained a gallant struggle against these savages. In 1297 and 1303 the Mongols came to the gates of Delhi, but the city did not fall, and soon after they ceased to harry Northern India. During these years the misery of the common people must often have been extreme. When foreign raids ceased for a time they were plundered by their own rulers. In the Panjab the fate of the peasantry must have depended chiefly on the character

of the governor for the time being, and of the local feudatories or *zaminddrs*, who were given the right to collect the State's share of the produce on condition of keeping up bodies of armed men for service when required.

The Invasion of Timiir.—The long reign of Muhammad Tughlak's successor, Firoz Shah (1351-1388), son of a Hindu Rajput princess of Dipalpur, brought relief to all classes. Besides adopting a moderate fiscal policy, he founded towns like Hissar and FatehaMd, dug canals from the Jamna and the Sutlej, and carried out many other useful works. On his death the realm fell into confusion. In 1398-99 another appalling calamity fell upon it in the invasion of Timurlang (Tamerlane), Khan of Samarkand. He entered India at the head of 90,000 horsemen, and marched by Multan, Dipalpur, Sirsa, Kaithal, and Panipat to Delhi. What lust of blood was to the Mongols, religious hatred was to Timur and his Turks. Ten thousand Hindus were put to the sword at Bhatner and 100,000 prisoners were massacred before the victory at Delhi. For the three days' sack of the royal city Timur was not personally responsible. Sated with the blood of lakhs of infidels sent "to the fires of Hell" he marched back through Kangra and Jammu to the Indus. Six years later the House of Tughlak received a deadly wound when the Wazir, Ikbāl Khan, fell in battle with Khizr Khan, the governor of Multan.

The later Dynasties.—The Saiyyids, who were in power from 1414 to 1451, only ruled a small territory round Delhi. The local governors and the Hindu chiefs made themselves independent. Sikandar Lodī (1488-1518) reduced them to some form of submission, but his successor, Ibrahīm, drove them into opposition by pushing authority further than his power justified. An Afghan noble, Daulat Khan, rebelled in the Panjab. There is always an ear at Kabul listening to the first sounds of

discord and weakness between Peshawar and Delhi. Babar, a descendant of Timtir, ruled a little kingdom there. In 1519 he advanced as far as Bhera. Five years later his troops burned the Lahore *bazar*, and sacked Dipalpur. The next winter saw Babar back again, and this time Delhi was his goal. On the 21st of April, 1526, a great battle at Panipat again decided the fate of India, and Babar entered Delhi in triumph.

Akbar and his successors.—He soon bequeathed his Indian kingdom to his son Humayun, who lost it, but recovered it shortly before his death by defeating Sikandar Sur at Sirhind. In 1556 Akbar succeeded at the age of 13, **and** in the same year Bahram Khan won for his master a great battle at Panipat and seated the Moghals firmly on the throne. For the next century and a half, till their power declined after the death of Aurangzeb in 1707, Kabul and Delhi were under one rule, and the Pan jab was held in a strong grasp. When it was disturbed the cause was rebellions of undutiful sons of the reigning Emperor, struggles between rival heirs on the Emperor's death, or attempts to check the growing power of the Sikh Gurus. The empire was divided into *subahs*, and the area described in this book embraced *subahs* Lahore and Mukan, and parts of *subahs* Delhi and Kabul. Kashmir and the trans-Indus tract were included in the last.

The Sultans of Kashmir.—The Hindu rule in Kashmir had broken down by the middle of the twelfth century. A long line of Musalman Sultans followed. Two notable names emerge in the end of the fourteenth and the first half of the fifteenth century, Sikandar, the "Idol-breaker," who destroyed most of the Hindu temples and converted his people to Islam, and his wise and tolerant successor, Zain-ul-abidin. Akbar conquered Kashmir in 1587.

Moghal Royal Progresses to Kashmfr.—His successors often moved from Delhi by Lahore, Bhimbar, and the Pfr

Panjal route to the Happy Valley in order to escape the summer heats. Bernier has given us a graphic account of Aurangzeb's move to the hills in 1665. On that occasion his total following was estimated to amount to 300,000 or 400,000 persons, and the journey from Delhi to Lahore occupied two months. The burden royal progresses on this scale must have imposed on the country is inconceivable. Jahangir died in his beloved Kashmir. He planted the road from Delhi to Lahore with trees, set up as milestones the *kos mindrs*, some of which are still standing, and built fine *sarais* at various places.

Prosperity of Lahore under Akbar, Jahangir, and Shahjahan.—The reigns of Akbar and of his son and grandson were the heyday of Lahore. It was the half-way house between Delhi and Kashmir, and between Agra and Kabul. The Moghal Court was often there. Akbar made the city his headquarters from 1584 to 1598. Jahangir was buried and Shahjahan was born at Lahore. The mausoleum of the former is at Shahdara, a mile or two from the city. Shahjahan made the Shalimar garden, and Ali Mardan Khan's Canal, the predecessor of our own Upper Barf Doab Canal, was partly designed to water it. Lahore retained its importance under Aurangzeb, till he became enmeshed in the endless Deccan wars, and his successor, Bahadur Shah, died there in 1712.

Baba Nanak, the first Guru.—According to Sikh legend Babar in one of his invasions had among his prisoners their first Guru, Baba Nanak, and tried to make him a Musalman. Nanak was born in 1469 at Talwandi, now known as Nankana Sahib, 30 miles to the south-west of Lahore, and died twelve years after Babar's victory at Pdnipat. He journeyed all over India, and, if legend speaks true, even visited Mecca. His propaganda was a peaceful one. A man of the people himself, he had a



Fig- 59- Baba Nanak and the Musician Mardana.

was succeeded by his grandson, Har Rai (1645-1661). The new Guru was a man of peace. Har Rai died in 1661, having nominated his younger son, Harkrishn, a child of six, as his successor. His brother, Ram Rai, disputed his claim, but Aurangzeb confirmed Harkrishn's appointment. He died of small pox in 1664 and was succeeded by his uncle, Teg Bahadur (1664-1675), whose chief titles to fame are his execution in 1675, his prophecy of the coming of the English, and the fact that he was the father of the great tenth Guru, Govind. It is said that when in prison at Delhi he gazed southwards one day in the direction of the Emperor's *zandna*. Charged with this impropriety, he replied: "I was looking in the direction of the Europeans, who are coming to tear down thy *pardas* and destroy thine empire."

Guru Govind Singh.—When Govind (1675-1708) succeeded his father, Aurangzeb had already started on the course of persecution which fatally weakened the pillars of Turkish rule. Govind grew up with a rooted hatred of the Turks, and a determination to weld his followers into a league of fighting men or *Khalsa* (Ar. *khdlis* = pure), admission into which was by the *pahul*, a form of military baptism. Sikhs were henceforth to be *Singhs* (lions). They were forbidden to smoke, and enjoined to wear the five k's, *kes*, *kangha*, *kripan*, *kachh*, and *kara* (uncut hair, comb, sword, short drawers, and steel bracelet). He established himself at Anandpur beyond the Hoshiarpur Siwaliks. Much of his life was spent in struggles with his neighbours, the Rajput Hill Rajas, backed from time to time by detachments of imperial troops from Sirhind. In 1705 two of his sons were killed fighting and two young grandsons were executed at Sirhind. He himself took refuge to the south of the Sutlej, but finally decided to obey a summons from Aurangzeb, and was on the way to the Deccan when the old Emperor died. The Guru

took up his residence on the banks of the Goddvarf, and died there in 1708.

Banda.—Before his death he had converted the Hindu ascetic Banda, and sent him forth on a mission of revenge. Banda defeated and slew the governor of Sirhind, Wazir Khan, and sacked the town. Doubtless he dreamed of making himself Guru. But he was really little more than a condottiere, and his orthodoxy was suspect. He was defeated and captured in 1715 at Gurdaspur. Many of his followers were executed and he himself was tortured to death at Delhi, where the members of an English mission saw a ghastly procession of Sikh prisoners with 2000 heads carried on poles. The blow was severe, and for a generation little was heard of the Sikhs.

Invasions of Nddir Shah and Ahmad Shah.—The central power was weak, and a new era of invasions from the west began. Nddir Shah, the Turkman shepherd, who had made himself master of Persia, advanced through the Pan jab. Zakaria Khan, the governor of Lahore, submitted and the town was saved from sack. A victory at Karnal left the road to Delhi open, and in March, 1738, the Persians occupied the capital. A shot fired at Nadir Shah in the Chandni Chauk led to the nine hours' massacre, when the Dariba ran with blood, and 100,000 citizens are said to have perished. 'The Persians retired laden with booty, including the peacock throne and the Kohinur diamond. The Sikhs harassed detachments of the army on its homeward march. Nadir Sh&h was murdered nine years later, and his power passed to the Afghzan leader, the Duranf Ahmad Shah.

Between 1748 and 1767 this remarkable man, who could conquer but could not keep, invaded India eight times. Lahore was occupied in 1748, but at Sirhind the skill of Mir Mannu, called Muin ul Mulk, gave the advantage to the Moghals. Ahmad Shah retreated, and

Muin ul Mulk was rewarded with the governorship of the Panjab. He was soon forced to cede to the Afghan the revenue of four districts. His failure to fulfil his compact led to a third invasion in 1752, and Muin ul Mulk, after a gallant defence of Lahore, had to submit. In 1755-56 Ahmad Shah plundered Delhi and then retired, leaving his son, Timur, to represent him at Lahore. Meanwhile the Sikhs had been gathering strength. Then, as now, they formed only a fraction of the population. But they were united by a strong hatred of Muhammadan rule, and in the disorganized state of the country even the loose organization described below made them formidable. Owing to the weakness of the government the Panjab became dotted over with forts, built by local chiefs, who undoubtedly lived largely by plunder. The spiritual organization under a Guru being gone, there gradually grew up a political and military organization into twelve *misls*, in which "a number of chiefs agreed, after a somewhat democratic and equal fashion, to fight under the general orders of some powerful leader" against the hated Muhammadans. The *misls* often fought with one another for a change. In the third quarter of the eighteenth century *Sarddr* Jassa Singh of Kapurthala, head of the Ahluwalia *misl*, was the leading man among the Sikhs. Timur having defiled the tank at Amritsar, Jassa Singh avenged the insult by occupying Lahore in 1756, and the Afghan prince withdrew across the Indus. Adina Beg, the governor of the Jalandhar Doab, called in the Mahrattas, who drove the Sikhs out in 1758. Ahmad Shah's fifth invasion in 1761 was rendered memorable by his great victory over the Mahratta confederacy at Panipat. When he returned to Kabul, the Sikhs besieged his governor, Zin Khan, in Sirhind. Next year Ahmad Shah returned, and repaid their audacity by a crushing defeat near Barnala.

They soon rallied, and, in 1763, under Jassa Singh Ahluwalia and Raja Ala Singh of Patiala razed Sirhind to the ground. After the sack the Sikh horsemen rode over the plains between Sirhind and Karnal, each man claiming for his own any village into which in passing he had thrown some portion of his garments. This was the origin of the numerous petty chiefships and confederacies of horsemen, which, along with the Phulkian States, the British Government took under its protection in 1808. In 1764 the chiefs of the Bhangi *rnisl* occupied Lahore.

CHAPTER XIX

HISTORY {*continued*}, THE SIKH PERIOD, 1764-1849 A.D.

Rise of Ranjit Singh.—The Bhangis held Lahore with brief intervals for 25 years. In 1799, Ranjit Singh, basing his claim on a grant from Shah Zaman, the grandson of Ahmad Shah, drove them out, and inaugurated the remarkable career which ended with his death in 1839. When he took Lahore the future Maharaja was only nineteen years of age. He was the head of the Sukarchakia *misl*, which had its headquarters at Gujranwala. Mean in appearance, his face marked and one eye closed by the ravages of smallpox, he was the one man of genius the Jat tribe has produced. A splendid horseman, a bold leader, a cool thinker untroubled with scruples, an unerring judge of character, he was bound to rise in such times. He set himself to put down every Sikh rival and to profit by the waning of the Durani power to make himself master of their possessions in the Panjab. Pluck, patience, and guile broke down all opposition among the Manjha Sikhs. The Sikh chiefs to the south of the Sutlej were only saved from the same fate by throwing themselves in 1808 on the protection of the English, who six years earlier had occupied Delhi, and by taking under their protection the blind old Emperor, Shah Alam, had virtually proclaimed themselves the paramount power in India. For 44 years he had been only a piece in the game played by Mahrattas,

Rohillas, and the English in alliance with the Nawab Wazir of Oudh.

British supremacy established in India.—In the first years of the nineteenth century the Marquess of Wellesley had made up his mind that the time was ripe to grasp supreme power in India. The motive was largely self-



Fig. 61. Maharaja Ranjit Singh.

(From a picture book said to have been prepared for Mahdrdja Dalip Singh,)

preservation. India was included in Napoleon's vast plans for the overthrow of England, and Sindhia, with his army trained in European methods of warfare by French 'officers, seemed a likely confederate. Colonel Arthur Wellesley's hard-won battle at Assaye in September, 1803, and Lord Lake's victories on the Hindan and

at Laswari in the same year, decided the fate of India. Delhi was occupied, and Daulat Rao Sindhia ceded to the company territory reaching from Fazilka on the Sutlej to Delhi on the Jamna, and extending along that river northwards to Karnal and southwards to Mewat. Fazilka and a large part of Hissar then formed a wild desert tract called Bhattidna, over which no effective control was exercised till 1818. In 1832 "the Delhi territory" became part of the North-West Provinces, from which it was transferred to the Pan jab after the Mutiny.

Relations of Ranjit Singh with English.—In December, 1808, Ranjit Singh was warned that by the issue of the war with Sindhia the Cis-Sutlej chiefs had come under British protection. The Maharaja was within an ace of declaring war, or let the world think so, but his statesman-like instincts got the better of mortified ambition, and in April, 1809, he signed a treaty pledging himself to make no conquests south and east of the Sutlej. The compact so reluctantly made was faithfully observed. In 1815, as the result of war with the Gurkhas, the Rajput hill states lying to the south of the Sutlej came under British protection.

Extension of Sikh Kingdom in Pan jab.—As early as 1806, when he reduced Jhang, Ranjit Singh began his encroachments on the possessions of the Duranis in the Panjab. Next year, and again in 1810 and 1816, Multan was attacked, but the strong fort was not taken till 1818, when the old Nawab, Muzaffar Khan, and five of his sons, fell fighting at the gate. Kashmir was first attacked in 1811 and finally annexed in 1819. Called in by the great Katoch Raja of Kangra, Sanscr Chand, in 1809, to help him against the Gurkhas, Ranjit Singh duped both parties, and became master of the famous fort. Many years later he annexed the whole of the Kangra hill states. By 1820 the Maharaja was supreme from the

Sutlej to the Indus, though his hold on Hazara was weak. Peshawar became tributary in 1823, but it was kept in subjection with much difficulty. Across the Indus the position of the Sikhs was always precarious, and revenue was only paid when an armed force could be sent to collect it. As late as 1837 the great Sikh leader, Harf Singh Nalwa, fell fighting with the Afghans at Jamnid. The Barakzai, Dost Muhammad, had been the ruler of Kabul since 1826. In 1838, when the English launched their ill-starred expedition to restore Shah Shuja to his throne, Ranjit Singh did not refuse his help in the passage through the Panjab. But he was worn out by toils and excesses, and next year the weary lion of the Panjab died. He had known how to use men. He employed Jat blades and Brahman and Muhammadan brains. Khattris put both at his service. The best of his local governors was Diwan Sawan Mai, who ruled the South-West Panjab with much profit to himself and to the people. After 1820 the three Jammu brothers, Rajas Dhian Singh, Suchet Singh, and Gulab Singh, had great power.

Successors of Ranjit Singh.—From 1839 till 1846 an orgy of bloodshed and intrigue went on in Lahore. Kharak Singh, the Maharaja's son, died in 1840, and on the same day occurred the death of his son Nao Nihal Singh, compassed probably by the Jammu Rajas. Sher Singh, and then the child, Dalip Singh, succeeded. In September, 1843, Maharaja Sher Singh, his son Partab Singh, and Raja Dhian Singh were shot by A jit Singh and Lehna Singh of the great Sindhanwalia house. The death of Dhian Singh was avenged by his son, Hira Singh, who proclaimed Dalip Singh as Maharaja and made himself chief minister. When he in turn was killed Rani Jindan, the mother of Dalip Singh, her brother Jowahir Singh, and her favourite, Lai Singh, took the reins.



Fig. 62. Maharaja Kharak Singh.



Fig. 63. Nao Nihal Singh.



Fig. 64. Maharaja Sher Singh.

*(From a picture book said to have been prepared for
Mahardja Dalip Singh.)*

The First Sikh War and its results,—In 1845 these intriguers, fearing the *Khalsa* army which they could not control, yielded to its cry to be led across the Sutlej in the hope that its strength would be broken in its conflict with the Company's forces. The valour displayed by the Sikh soldiery on the fields of Mudki, FerozesMh (Pherushahr), and Sobraon was rendered useless by the treachery of its rulers, and Lahore was occupied in February, 1846. By the treaty signed on 9th March, 1846, the Mahcixaja ceded the territories in the plains between the Sutlej and Bias, and in the hills between the Bias and the Indus. Kashmir and Hazara were made over by the Company to Raja Gulab Singh for a payment of 75 lakhs, but next year he induced the Lahore Darbar to take over Hazdra and give him Jammu in exchange. After Raja Lal Singh had been banished for instigating Shekh Imam ud din to resist the occupation of Kashmir by Gulab Singh, an agreement was executed, in December, 1846, between the Government and the chief Sikh *Sarddrs* by which a Council of Regency was appointed to be controlled by a British Resident at Lahore. The office was given to Henry Lawrence.

The Second Sikh War.—These arrangements were destined to be short-lived. Diwan Sawan Mai's son, Mulraj, mismanaged Multan and was ordered to resign. In April, 1848, two English officers sent to instal his Sikh successor were murdered. Herbert Edwardes, with the help of Muhammadan tribesmen and Bahawalpur troops, shut up Mulraj in Multan, but the fort was too strong for the first British regular force, which arrived in August, and it did not fall till January, 1849. During that winter a formidable Sikh revolt against English domination broke out. Its leader was *Sarddr* Chatar Singh, Governor of Hazara. • The troops sent by the *Darbar* to Multan under Chatar Singh's son, Sher Singh,

marched northwards in September to join their co-religionists.

On the 13th of January, 1849, Lord Gough fought a very hardly contested battle at Chilianwala. If this was but a doubtful victory, that won six weeks later at Gujrat was decisive. On 12th March, 1849, the soldiers



Fig. 65. Zamzama Gun¹.

of the *Khalsa* in proud dejection laid down their weapons at the feet of the victor, and dispersed to their homes.

Annexation.—The cause they represented was in no sense a national one. The Sikhs were a small minority of the population, the bulk of the people being Muhammadans, to whom the English came as deliverers. On the 30th of March, 1849, the proclamation annexing the Pan jab was read at Lahore.

¹ This gun, known to the readers of *Kim*, stands on the Lahore Mall. Whoever possesses it is supposed to be ruler of the Panjab.

CHAPTER XX

HISTORY (*continued*), THE BRITISH PERIOD, 1849-1913

Administrative Arrangements in Pan jab.—Lord Dalhousie put the government of the province under a Board of Administration consisting of the two Lawrences, Henry and John, and Charles Mansel. The Board was abolished in 1853 and its powers vested in a Chief Commissioner. A Revenue or Financial Commissioner and a Judicial Commissioner were his principal subordinates. John Lawrence, the first and only Chief Commissioner of the Panjab, became its first Lieutenant-Governor on the 1st of January, 1859. The raising of the Panjab to the full rank of an Indian province was the fitting reward of the great part which its people and its officers, with their cool-headed and determined chief, had played in the suppression of the Mutiny. The overthrow of the *Khdlas* left the contending parties with the respect which strong men feel for each other; the services of the Sikhs in 1857 healed their wounded pride and removed all soreness.

Administration, 1849-1859.—When John Lawrence laid down his office in the end of February, 1859, ten years of work by himself and the able officers drafted by Lord Dalhousie into the new province had established order on a solid foundation. A strong administration suited to a manly and headstrong people had been organised. In the greater part of the province rights in land had been determined and recorded. The principle

of a moderate assessment of the land revenue had been laid down and partially carried out in practice. The policy of canal and railway development, which was to

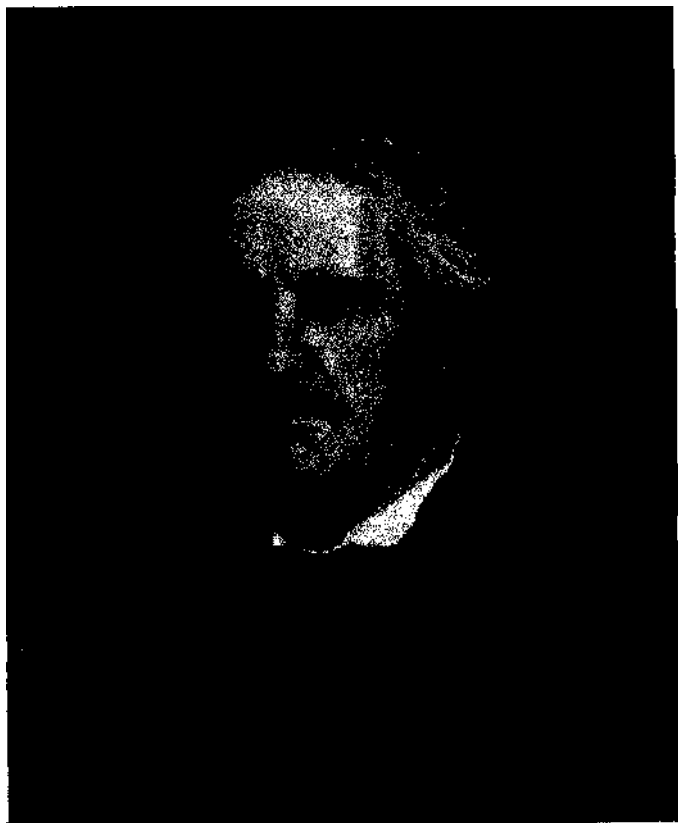


Fig. 66. Sir John Lawrence.

have so great a future in the Pan jab, had been definitely started. The province had been divided into nine divisions containing 33 districts. The Divisional Commissioners were superintendents of revenue and police

with power to try the gravest criminal offences and to hear appeals in civil cases. The Deputy Commissioner of districts had large civil, criminal, and fiscal powers. A simple criminal and civil code was enforced. The peace of the frontier was secured by a chain of fortified

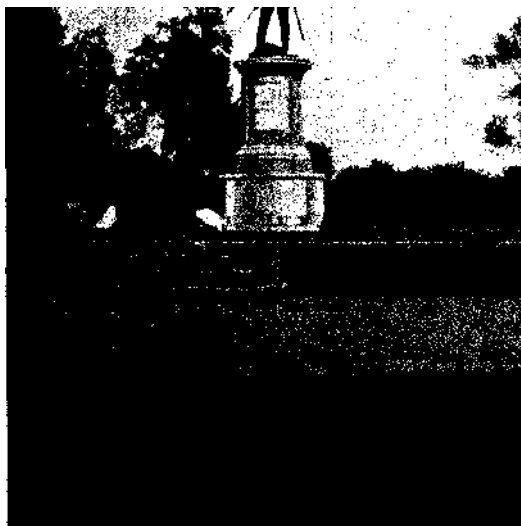


Fig. 67. John Nicolson's Monument at Delhi.

outposts watching the outlets from the hills, behind which were the cantonments at the headquarters of the districts linked together by a military road. The posts and the cantonments except Peshawar were garrisoned by the Frontier Force, a splendid body of troops consisting

ultimately of seven infantry and five cavalry regiments, with some mule batteries. This force was till 1885 subject to the orders of the Lieutenant Governor. It never wanted work, for before the Mutiny troops had to be employed seventeen times against the independent tribesmen. East of the Indus order was secured by the disarmament of the people, the maintenance, in addition to civil police, of a strong body of military police, and the construction of good roads. Just before Lawrence left the construction of the Amritsar-Multan railway was begun, and a few weeks after his departure the Upper Bari Doab Canal was opened.



Fig. 68. Sir Robert Montgomery.

Administration, 1859-1870.—The next eleven years occupied by the administrations of Sir Robert Montgomery and Sir Donald Macleod were a quiet time in which results already achieved were consolidated. The Penal Code was extended to the Panjab in 1862, and a Chief Court with a modest establishment of two judges in 1865 took the place of the Judicial Commissioner. In the same year a Settlement Commissioner was appointed to help the Financial Commissioner in the control of land revenue settlements. Two severe famines marked the beginning and the close of this period. Omitting the usual little frontier excitements, it is necessary to mention the troublesome Ambela campaign in 1863 in the country north of Peshawar, which had for its object the breaking up of the power of a nest of Hindustani fanatics, and the Black Mountain expedition, in 1868, on the Hazara border, in which no fewer than 15,000 men were employed. Sir Henry Durand, who succeeded Sir Donald Macleod, after seven months of office lost his life by an accident in the beginning of 1871.

Administration, 1871-1882.—The next eleven years divided between the administrations of Sir Henry Davies (1871-1877) and Sir Robert Egerton (1877-1882) produced more striding events. In 1872 a small body of fanatics belonging to a Sikh sect known as Kiikas or Shouters marched from the Ludhiana district and attacked the headquarters of the little Muhammadan State of Malerkotla. They were repulsed and 68 men surrendered to the Patiala authorities. The Deputy Commissioner of Ludhiana blew 49 of them from the guns, and the rest were executed after summary trial by the Commissioner. Such strong measures were not approved by the Government, but it must be remembered that these madmen had killed ten and wounded seventeen men, and that their lives were justly forfeit. On the 1st of January,

1877, Queen Victoria's assumption of the title of Empress of India (*Kaisar-i-Hind*) was announced at a great *Darbdr* at Delhi. In 1877 Kashmir, hitherto controlled by the Lieutenant-Governor, was put directly under the Government of India. The same year and the next the province was tried by famine, and in 1878-80 it was the base from



Fig. 69. Panjab Camels—Lahore.

which our armies marched on Kabul and Kandahar, while its resources in camels were strained to supply transport. Apart from this its interest in the war was very great because it is the chief recruiting ground of the Indian army and its chiefs sent contingents to help their suzerain. The first stage of the war was closed by the treaty of Gandamak in May, 1879, by which Yakub

Khan surrendered any rights he possessed over the Khaibar and the Kurram as far as Shutargardan.

Administration, 1882-1892.—During the Lieutenant-Governorships of Sir Charles Aitchison (1882-1887) and Sir James Lyall (1887-1892) there was little trouble on



Fig. 70. Sir Charles Aitchison.

the western frontier. In 1891 the need had arisen of making our power felt up to the Pamirs. The setting up of a British agency at Gilgit was opposed in 1891 by the fighting men of Hunza and Nagar. Colonel Durand advanced rapidly with a small force and when a determined assault reduced the strong fort of Nilt,

trouble was at an end once and for all. Within the Panjab the period was one of quiet development. The Sirhind Canal was opened in 1882, and the weir at Khanki for the supply of the Lower Chenab Canal was finished in 1892. New railways were constructed. Lord Ripon's policy of Local Self-government found a strong supporter in Sir Charles Aitchison, and Acts were passed dealing with the constitution and powers of municipal committees and district boards. In 1884 and 1885 a large measure of reorganization was carried out. A separate staff of divisional, district, and subordinate civil judges was appointed. The divisional judges were also sessions judges. The ten commissioners were reduced to six, and five of them were relieved of all criminal work by the sessions judges. The Deputy Commissioner henceforth was a Revenue Collector and District Magistrate with large powers in criminal cases. The revenue administration was at the same time being improved by the reforms embodied in the Panjab Land Revenue and Tenancy Acts passed at the beginning of Sir James Lyall's administration.

Administration, 1892-1902.—The next two administrations, those of Sir Dennis Fitzpatrick (1892-97) and Sir Mackworth Young (1897-1902) were crowded with important events. Throughout the period the colonization of the vast area of waste commanded by the Lower Chenab Canal was carried out, and the Lower Jhelam Canal was formally opened six months before Sir Mackworth Young left. The province suffered from famine in 1896-97 and again in 1899-1900. In October, 1897, a worse enemy appeared in the shape of plague, but its ravages were not very formidable till the end of the period. The Panjab was given a small nominated Legislative Council in 1897, which speedily proved itself a valuable instrument for dealing with much-needed

provincial legislation. But the most important Panjab Act of the period, XIII of 1900, dealing with Land Alienation was passed by the Viceroy's Legislative Council. In 1901 a Political Agent was appointed as the intermediary between the Panjab Government and the Phulkian States. On the frontier the conclusion of the Durand Agreement in 1893 might well have raised hopes of quiet times. But the reality was otherwise. The establishment of a British officer at Wdna to exercise control over Southern Wazirist&n in 1894 was forcibly resisted by the Mahsiid Wazfrs, and an expedition had to be sent into their country. The Mehtar or Chief of Chitrdl, who was in receipt of a subsidy from the British Government, died in 1892. A period of great confusion followed fomented by the ambitions of Umra Khan of Jandol. Finally we recognised as Mehtar the eldest son, who had come uppermost in the struggle, and sent an English officer as British Agent to Chitral. Umra Khan got our protege murdered, and besieged the Agent in the Chitral fort. He withdrew however on the approach of a small force from Gilgit. Shuja-ul-Mulk was recognised as Mehtar. This little trouble occurred in 1895. Two years later a storm-cloud suddenly burst over the * frontier, such as we had never before experienced. It spread rapidly from the Tochi to Swat, tribe after tribe rising and attacking our posts. * It is impossible to tell here the story of the military measures taken against the different offending tribes. The most important was the campaign in Tirah against the Orakzais and Afridfs, in which 30,000 men were engaged for six months. In 1900 attacks on the peace of the border by the Mahsiid Wazfrs had to be punished by a blockade, and in the cold weather of 1901-2 small columns harried the hill country to enforce their submission. By this time the connection of the Panjab Government with frontier affairs, which

had gradually come to involve responsibility with little real power, had ceased. On the 25th of October, 1901, the North-West Frontier Province was constituted and Colonel (afterwards Sir Harold) Deane became its first Chief Commissioner, an office which he held till 1908, when he was succeeded by Major (now Sir George) Roos Keppel.

Administration, 1902-1913.—The last eleven years have embraced the Lieutenant Governorship of Sir Charles Rivaz (1902-1907), the too brief administration of Sir Denzil Ibbetson (1907-1908), and that of Sir Louis Dane (1908-1913). Throughout the period plague has been a disturbing factor, preventing entirely the growth of population which the rapid development of the agricultural resources of the province would otherwise have secured. It was among the causes stimulating the unrest which came to a head in 1907. A terrible earthquake occurred in 1905. Its centre was in Kangra, where 20,000 persons perished under the ruins of their houses. The colonization of the Crown waste on the Lower Jhelam Canal was nearly finished during Sir Charles Rivaz's administration. Before he left the Triple Canal Project, now approaching completion, had been undertaken. Other measures of importance to the rural population were the passing of the Co-operative Credit Societies' Act in 1903, and the organization in 1905 of a provincial Agricultural Department. The seditious movement which troubled Bengal had its echo in some parts of the Pan jab in the end of 1906 and the spring of 1907. A bill dealing with the rights and obligations of the Crown tenants in the new Canal Colonies was at the time before the Local Legislature. Excitement fomented from outside spread among the prosperous colonists on the Lower Chen&b Canal. There was a disturbance in Lahore in connection with the trial of a

newspaper editor, the ringleaders being students. When Sir Denzil Ibbetson took the reins into his strong hands in March, 1907, the position was somewhat critical. The disturbance at Lahore was followed by a riot at Rawalpindi. The two leading agitators were deported, a measure which was amply justified by their reckless



Fig. 71. Sir Denzil Ibbetson.

actions and which had an immediate effect. Lord Minto decided to withhold his assent from the Colony Bill, and it has recently been replaced by a measure which has met with general acceptance. When Sir Denzil Ibbetson took office he was already suffering from a mortal disease. In the following January he gave up the unequal struggle,

and shortly afterwards died. Sir Louis Dane became Lieutenant Governor in May, 1908. A striking feature of his administration was the growth of co-operative credit societies or village banks. At the Coronation *Darbar* on 12th December, 1911, the King - Emperor announced the transfer of the capital of India to Delhi. As a necessary consequence the city and its suburbs were severed from the province, with which they had been connected for 55 years. In 1913 Sir Louis Dane was succeeded by Sir Michael O'Dwyer.



Fig. 72. Sir Michael O'Dwyer.

CHAPTER XXI

ARCHAEOLOGY AND COINS

Hindu and Buddhist Remains.—The scholar who ended his study of Indian history with the close of the first millennium of the Christian era would expect to find a fruitful field for the study of ancient monuments of the Hindu faith in the plains of the Pan jab. He would look for a great temple of the Sun God at Multan, and at places like Lahore and Kangra, Thanesar and Pihowa, for shrines rich with graven work outside and with treasures of gold and precious stones within. But he would look in vain. The Muhammadan invaders of the five centuries which elapsed between Mahmud of Ghazni and the Moghal Babar were above all things idol-breakers, and their path was marked by the destruction and spoliation of temples. Even those invaders who remained as conquerors deemed it a pious work to build their mosques with the stones of ruined fanes. The transformation, as in the case of the great Kuwwat ul Islam mosque beside the Kutb Minar, did not always involve the complete obliteration of idolatrous emblems. Kangra was not too remote to be reached by invading armies, and the visitor to Nurpur on the road from Pathankot to Dharmasala can realize how magnificent some of the old Hindu buildings were, and how utterly they were destroyed. The smaller buildings to be found in the remoter parts of the hills escaped, and there are characteristic

groups of stone temples at Chamba and still older shrines dating from the eighth century at Barmaur and Chitradi in the same state. The ruins of the great temple of the Sun, built by Lalitaditya in the same period, at Martand¹ near Islamabad in the Kashmir State are very striking. The smaller, but far better preserved, temple at Payer is probably of much later date. Round the pool of



Fig. 73. Group of Chamba Temples.

Katas, one of siva's eyes, a great place of Hindu pilgrimage* in the Salt Range, there is little or nothing of antiquarian value, but there are interesting remains at Malot in the same neighbourhood. . It is possible that when the mounds that mark the sites of ancient villages come to be excavated valuable relics of the Hindu period will be brought to light. The forces of nature or the violence of man have wiped out all traces of the numerous Buddhist monasteries

¹ See page 166.

which the Chinese pilgrims found in the Panjab. Inscriptions of Asoka graven on rocks survive at Shahbazgarhf and Mansehra in the North-West Frontier Province. Two pillars with inscriptions of the Missionary Emperor stand at Delhi. They were brought from Topra near the Jamna in Ambala and from Meerut by Firoz Shah. The traveller by train, from Jhelam to Rawalpindi can



Fig. 74. Payer Temple.

see to the west of the line at Mankiala a great *stupa* raised to celebrate the self-sacrifice of the Bodhisattva who gave his life to feed a starving tigress. There is a ruined *stupa* at Sui Vihar in the Bahawalpur State. The Chinese pilgrims described the largest of Indian *stupas* built by Kanishka near Peshawar to enshrine precious relics of Gautama Buddha and a great monastery

beside it. Recent excavations have proved the truth of the conjecture that the two mounds at Shahji ki dherf covered the remains of these buildings, and the six-sided



Fig* 75* Reliquary.

crystal reliquary containing three small fragments of bone has after long centuries been disinterred and is now in the great pagoda at Rangoon. In the Lahore

museum there is a rich collection of the sculptures recovered from the Peshawar Valley, the ancient Gandhara. They exhibit strong traces of Greek influence. The best age of Gandhara sculpture was probably over before the reign of Kanishka. The site of the famous town of Taxila is now a protected area, and excavation there may yield a rich reward.



Fig. 76. Colonnade in Kuwwat ul Islam Mosque.

Muhammadan Architecture.—The Muhammadan architecture of North-Western India may be divided into three periods:

- (a) The Pathan .. 1191-1320
- (b) The Tughlak .. 1320-1556
- (c) The Moghal .. 1556-1753

In the Pathan period the royal builders drew their inspiration from Ghazni, but their work was also much

affected by Hindu influences for two reasons. They used the materials of Hindu temples in constructing their mosques and they employed masons imbued with the traditions of Hindu art. The best specimens of this period are to be found in the group of buildings in Old

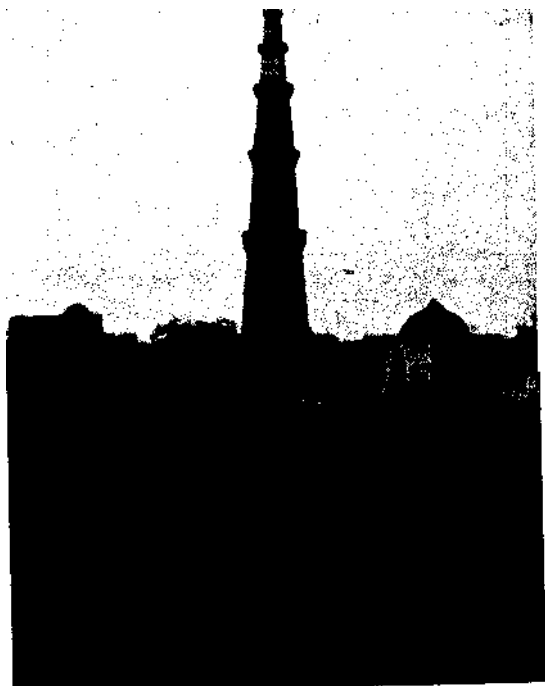


Fig. 77. Kutb Minar.

Delhi or *Kila' Rai Pithora*, close to Mahraun and eleven miles to the south of the present city. These buildings are the magnificent *Kuwwat ul Islam* (Might of Islam) Mosque (1191-1225), with its splendid tower, the *Kutb Minar* (1200-1220), from which the *muazzin* called the

faithful to prayer, the tomb of the Emperor Altamsh (1238), and the great gateway built in 1310 by Ala ud din Khalji. In the second period, named after the house that occupied the imperial throne when it began, all traces of Hindu influence have vanished, and the buildings display the austere and massive grandeur suited to the faith of the desert prophet unalloyed by foreign elements. This style in its beginning is best seen in the cyclopean

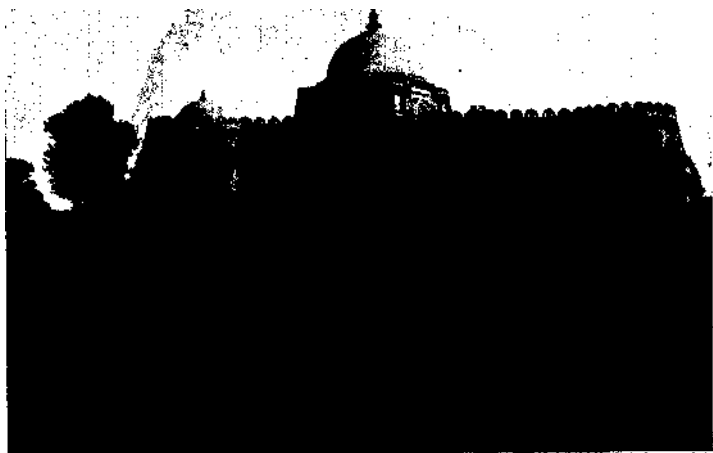


Fig. 78. Tomb of Emperor Tughlak Shih.

ruins of Tughlakabad and the tomb of the Emperor Tughlak Shah, and in some mosques in and near Delhi. Its latest phase is represented by Sher Shah's mosque in the Old Fort or *Pur ana Kila*. To some the simple grandeur of this style will appeal more strongly than the splendid, but at times almost effeminate, beauty of the third period. Noted examples of Moghal architecture in the Panjab are to be found in Shahjahan's red fort



Fig. 79. Jama Masjid, Delhi.

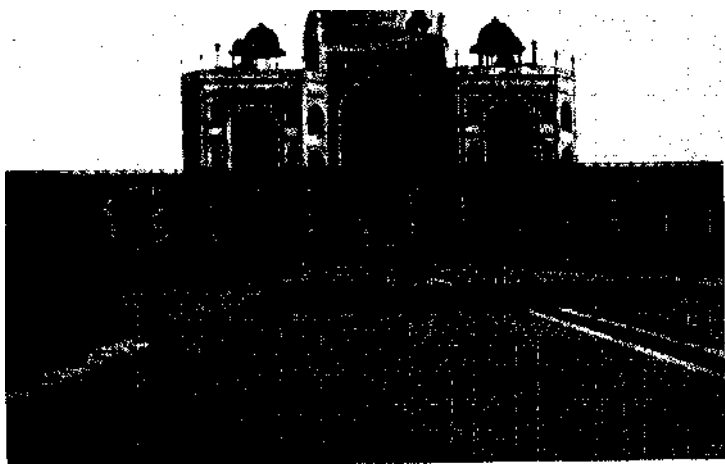


Fig. 80. Tomb of Emperor Humayun.

palace and *Jama* Masjid* at New Delhi or Shahjahanabad, Humayun's tomb on the road from Delhi to Mahrauli, the fort palace, the Badshahi and Wazir Khan's mosques, at Lahore, and Jahangir's mausoleum at Shahdara. A very late building in this style is the tomb of Nawab Safdar Jang (1753) near Delhi. A further account of some of the most famous Muhammadan buildings will be

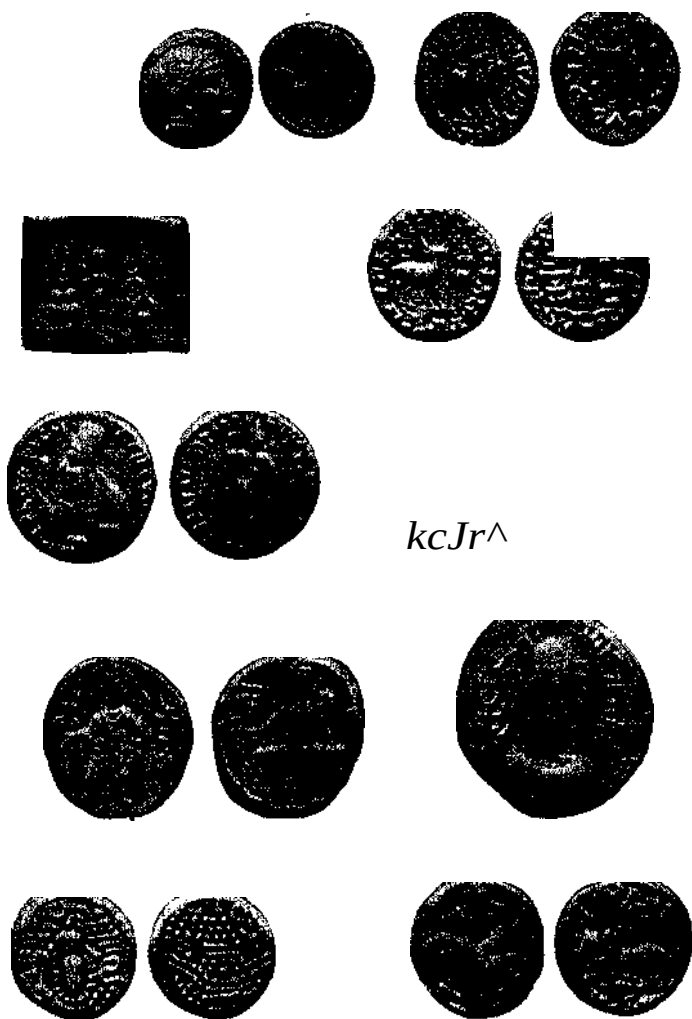


Fig. 81. Badshahi Mosque, Lahore.

found in the paragraphs devoted to the chief cities of the province. The architecture of the British period scarcely deserves notice.

Coins.—Among the most interesting of the archaeological remains are the coins which are found in great abundance on the frontier and all over the Panjab. These take us back through the centuries to times before

the invasion of India by Alexander, and for the obscure period intervening between the Greek occupation of the Frontier and the Muhammadan conquest, they are our main source of history. The most ancient of the Indian monetary issues are the so-called punch-marked coins, some of which were undoubtedly in existence before the Greek invasion. Alexander himself left no permanent traces of his progress through the Pan jab and Sindh, but about the year 200 B.C., Greeks from Bactria, an outlying province of the Seleukidan Empire, once more appeared on the Indian Frontier, which they effectively occupied for more than a century. They struck the well-known Graeco-Bactrian coins; the most famous of the Indo-Greek princes were Apollodotos and Menander. Towards the close of this dynasty, parts of Sindh and Afghanistan were conquered by Saka Scythians from Central Asia. They struck what are termed the Indo-Scythian and Indo-Parthian coins bearing names in legible Greek legends—Manes, Azes, Azilises, Gondophares, Abdagases. Both Greeks and Sakas were overthrown by the Kushans. The extensive gold and copper Kushan currency, with inscriptions in the Greek script, contains the names of Kadphises, Kanishka, Huvishka, and others. In addition to the coins of these foreign dynasties, there are the purely Indian currencies, e.g. the coins of Taxila, and those bearing the names of such tribes as the Odumbaras, Kunindas, and Yaudheyas. The White Huns overthrew the Kushan Empire in the fifth century. After their own fall in the sixth century, there are more and more debased types of coinage such as the ubiquitous *Gadhiya paisa*, a degraded Sassanian type. In the ninth century we again meet with coins bearing distinct names, the "bull and horseman" currency of the Hindu kings of Kabul. We have now reached the beginning of the Muhammadan rule in India. Muhammad



11

Fig. 82. Coins.

Silver punch-marked coin. 2. Drachma of Sophytes (Panjab Satrap about time of Alexander). 3. Hemidrachma of Azes. 4. Copper coin of Taxila. 5. Silver Kuninda coin. 6. Stater of Wema Kadphises. 7. Stater of Eanishka. 8. Later Kushan stater. 9. White Hun silver piece. 10. Gadhiya *paisa*. 11. Silver coin of Spalapati Deva, Hindu King of Kabul.

bin Sam was the founder of the first Pathan dynasty of Delhi, and was succeeded by a long line of Sultans. The Pathan and Moghal coins bear Arabic and Persian legends. There were mints at Lahore, Multan, Hafizabad, Kalanaur, Derajat, Peshawar, Srnagar and Jammu. An issue of coins peculiar to the Panjab is that of the Sikhs. Their coin legends, partly Persian, partly Panjabi, are written in the Persian and Gurmiikhi scripts. Amongst Sikh mints were Amritsar, Lahore, Multan, Dera, Anandgarh, Jhang, and Kashmir.

CHAPTER XXII

ADMINISTRATION—GENERAL

Panjab Districts.—The administrative unit in the Panjab is the district in charge of a Deputy Commissioner. The districts are divided into *tahsils*, each on the average containing four, and are grouped together in divisions managed by Commissioners. There are 28 districts and five divisions. An ordinary Panjab district has an area of 2000 to 3000 square miles and contains from 1000 to 2000 village estates. Devon, the third in size of the English counties, is about equal to an average Panjab district.

Branches of Administration.—The provincial governments of India are organized in three branches, Executive, Judicial, and Revenue, and a number of special departments, such as Forests and Irrigation. Under "Judicial" there are two subdivisions, civil and criminal. The tendency at first is for powers in all three branches to be concentrated in the hands of single individuals, development tends to specialization, but it is a matter of controversy how far the separation of executive and magisterial functions can be carried without jeopardy to the common weal.

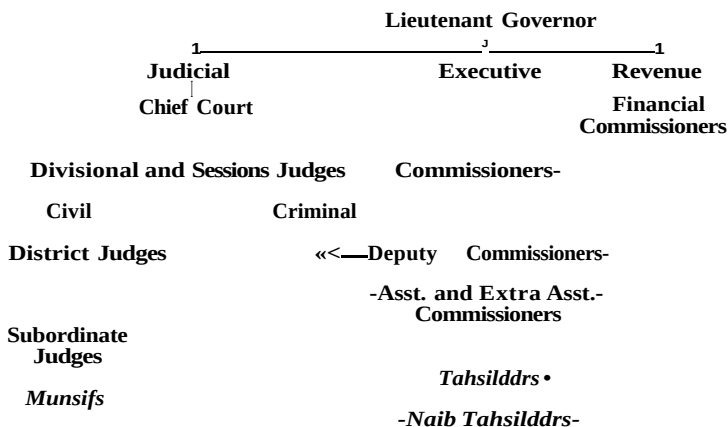
The Lieutenant Governor.—At the head of the whole administration is the Lieutenant Governor, who holds office for five years. He has a strong Secretariat to help in the dispatch of business. The experiment of governing the Panjab by a Board was speedily given up, and for sixty years it has enjoyed the advantage of one man government, the Lieutenant Governor controlling all subordinate authorities, and being himself only controlled

by the Governor General in Council. The independence of the Courts in the exercise of judicial functions is of course safeguarded.

Official hierarchy.—The following is a list of the official hierarchy in the different branches of the administration :

- A. Lieutenant Governor.
- B. Five Judges of Chief Court (*j*).
- C. Two Financial Commissioners (*r*).
- D. Five Commissioners, (*e*) and (*r*).
- E. Sixteen Divisional and Sessions Judges (*j*).
- F. Deputy Commissioners, (*e*), (*r*) and (*crim*).
- G. District Judges (*civ*).
- H. Subordinate Judges (*civ*).
- J. Assistant and Extra Assistant Commissioners, (*e*), (*j*) and (*r*).
- K. *Tahsilddrs* (*e*), (*r*) and (*crim*).
- L. *Munsifs* (*civ*).
- M. *Ndib-Tahsilddrs*, (*e*) (*r*) and (*j*).

The letters in brackets indicate the classes of functions which the official concerned usually exercises. Translated into a diagram we have the following:



Tahsildars and Assistant and Extra Assistant Commissioners. Thus the chain of executive authority runs down to the *tahstdr's* assistant or *naib* through the Commissioner and the Deputy Commissioner, the *tahsildr* being directly responsible to the latter. The Assistant and Extra Assistant Commissioners are the Deputy Commissioner's Assistants at headquarters, and as such are invested with powers in all branches. The *tahsildr*, a very important functionary, is in charge of a *tahsil*. He is linked on to the village estates by a double chain, one official consisting of the *kanungos* and the *patwdris* or village accountants whom they supervise, the other non-official consisting of the village headmen and the *zailddrs*, each of whom is the intermediary between the revenue and police staffs and the villages.

Subdivisional Officers.—In some heavy districts one or more *tahsils* are formed into a subdivision and put in charge of a resident Assistant or Extra Assistant Commissioner, exercising such independent authority as the Deputy Commissioner thinks fit to entrust to him.

The Deputy Commissioner and his Assistants. — As the officer responsible for the maintenance of order the Deputy Commissioner is District Magistrate and has large powers both for the prevention and punishment of crime. The District Superintendent is his Assistant in police matters. The Civil Surgeon is also under his control, and he has an Indian District Inspector of Schools to assist him in educational business. The Deputy Commissioner is subject to the control of the Divisional Commissioner.

Financial Commissioners.—In all matters connected with land, excise, and income tax administration the Commissioner and Deputy Commissioner are subject to the control of the Financial Commissioners, who are also the final appellate authority in revenue cases. As

chief district revenue officer the Deputy Commissioner's proper title is "Collector" a term which indicates his responsibility for the realization of all Government revenues. In districts which are canal irrigated the amount is in some cases very large.

Settlement Officers, etc.—With the periodical revisions of the land revenue assessment the Deputy Commissioner has no direct concern. That very responsible duty is done by a special staff of Settlement Officers, selected chiefly from among the Assistant Commissioners and working under the Commissioners and Financial Commissioners. The Director of Land Records, the Registrar of Co-operative Credit Societies, and in some branches of his work the Director of Agriculture and Industries, are controlled by the Financial Commissioners.

The Chief Court.—It must be admitted that Panjabis are very litigious and that in some tracts they are extremely vindictive and reckless of human life. The volume of litigation is swollen by the fact that the country is one of small-holders subject as regards inheritance and other matters to an uncoded customary law, which may vary from tribe to tribe and tract to tract. A suit is to the Panjabi a rubber, the last game of which he will play in Lahore, if the law permits. It is not therefore extraordinary that the Chief Court constituted in 1865 with two judges has now five, and that even this number has in the past proved insufficient. In the same way the cadre of divisional and sessions judges had in 1909 to be raised from 12 to 16.

Administration of N. W. F. Province.—In the N. W. F. Province no Commissioner is interposed between the district officers and the Chief Commissioner, under whom the Revenue Commissioner and the Judicial Commissioner occupy pretty much the position of the Financial Commissioners and the Chief Court in the Panjab.

Departments.—The principal departments are the Railway, Post Office, Telegraphs, and Accounts, under the Government of India, and Irrigation, Roads and Buildings, Forests, Police, Medical, and Education, under the Lieutenant Governor. In matters affecting the rural population, as a great part of the business of the Forest Department must do, the Conservator of Forests is subject to the control of the Financial Commissioners, whose relations with the Irrigation Department are also very intimate.

Legislative Council.—From 1897 to 1909 the Panjab had a local Legislative Council of nine nominated members, which passed a number of useful Acts. Under 9 Edward VII, cap. 4, an enlarged council with increased powers has been constituted. It consists of 24 members of whom eight are elected, one by the University, one by the Chamber of Commerce, three by groups of Municipal and cantonment committees, and three by groups of district boards. The other sixteen members are nominated by the Lieutenant Governor, and at least six of them must be persons not in Government service. The right of interpellation has been given, and also some share in shaping the financial arrangements embodied in the annual budget.

CHAPTER XXIII

ADMINISTRATION—LOCAL

Municipalities.—It is matter for reflection that, while the effect of British administration has been to weaken self-government in villages, half a century of effort has failed to make it a living thing in towns and districts. The machinery exists, but outside a few towns the result is poor. The attempt was made on too large a scale, municipal institutions being bestowed on places which were no more than villages with a *bazar*. This has been partially corrected of late years. A new official entity, the "notified area," has been invented to suit the requirements of such places. While there were in 1904 139 municipalities and 48 notified areas, in 1911-12 the figures were 107 and 104 respectively. Even in the latter year 32 of the municipalities had incomes not exceeding £1000 (Rs. 15,000). The total income of the 104 towns was Rs. 71,41,000 (£476,000), of which Rs. 44,90,000 (£300,000) were derived from taxation. Nearly 90 p.c. of the taxation was drawn from octroi, a hardy plant which has survived much economic criticism. The expenditure was Rs. 69,09,000 (£461,000), of which Rs. 40,32,000 (£269,000) fall under the head of "Public Health and Convenience." The incidence of taxation was Rs. 2-6 or a little over three shillings a head.

District Boards.—The district boards can at present in practice only be treated as consultative bodies, and well handled can in that capacity play a useful role. Their income is mainly derived from the local rate, a surcharge of one-twelfth on the land revenue. In 1911-12 the income was Rs. 53,74,000 (£358,000) and the expenditure Rs. 54,44,500 (£363,000). The local rate contributed 51 p.c. and contributions from Government 23 p.c. of the former figure. Public works took up 41 and Education about 20 p.c. of the expenditure.

Elections.—Some of the seats in most of the municipalities and boards are filled by election when any one can be induced to vote. Public spirit is lacking and, as a rule, except when party or sectarian spirit is rampant, the franchise is regarded with indifference.

CHAPTER XXIV

REVENUE AND EXPENDITURE

Financial Relations with Government of India.—Local governments exercise their financial powers in strict subordination to the Government of India, which alone can borrow, and which requires the submission for its sanction of the annual provincial budgets. To ensure a reasonable amount of decentralization the Supreme Government has made financial contracts with the provinces under which they receive definite shares of the receipts, and are responsible for definite shares of the expenditure, under particular heads. The existing contract dates only from 1911-12 (see Table V).

Income and Expenditure.—Excluding income from railways, post offices, telegraphs, salt, and sales of excise opium, which are wholly imperial, the revenue of the Panjab in 1911-12 was £5,057,000 (Rs. 758,56,000), of which the provincial share was £2,662,200 (Rs. 399,33,000), to which have to be added £251,800 (Rs. 37,77,000) on account of assignments made by the Government of India to the province. This brought up the total to £2,914,000 (Rs. 437,10,000). The expenditure was £2,691,933 (Rs. 403,79,000). This does not include £983,000 spent from loan funds on irrigation works, chiefly the great Triple Project. The large expenditure on railways is imperial. Of the gross income more than three-fourths is derived from the land (Land Revenue, 46 p.c, Irrigation, chiefly canal water rates, 29 p.c, and

Forests, $1\frac{3}{4}$ p.c.). The balance consists of Excise $8\frac{1}{2}$ p.c., Stamps, 7 p.c, Income Tax over 2 p.c, and other heads $5\frac{3}{4}$ P.c

Land Revenue.—Certain items are included under the Land Revenue head which are no part of the assessment of the land. The real land revenue of the Panjab is about £2,000,000 and falls roughly at the rate of eighteen pence per cultivated acre (Table II). It is not a land tax, but an extremely moderate quit rent. In India the ruler has always taken a share of the produce of the land from the persons in whom he recognised a permanent right to occupy it or arrange for its tillage. The title of the Raja to his share and the right of the occupier to hold the land he tilled and pass it on to his children both formed part of the customary law of the country. Under Indian rule the Raja's share was often collected in kind, and the proportion of the crop taken left the tiller of the soil little or nothing beyond what was needed for the bare support of himself and his family. What the British Government did was to commute the share in kind into a cash demand and gradually to limit its amount to a reasonable figure. The need of moderation was not learned without painful experience, but the Pan jab was fortunate in this that, except as regards the Delhi territory, the lesson had been learned and a reasonable system evolved in the United Provinces before the officers it sent to the Pan jab began the regular assessments of the districts of the new province. A land revenue settlement is usually made for a term of 20 or 30 years. Since 1860 the limit of the government demand has been fixed at one-half of the rental, but this figure is very rarely approached in practice. Between a quarter and a third would be nearer the mark. A large part of the land is tilled by the owners, and the rent of the whole has to be calculated from the data for the part, often not more than a third

or two-fifths of the whole, cultivated by tenants at will. The calculation is complicated by the fact that kind rents consisting of a share of the crop are in most places commoner than cash rents and are increasing in favour. The determination of the cash value of the rent where the crop is shared is a very difficult task. There is a large margin for error, but there can be no doubt that the net result has almost always been undervaluation. It is probable that the share of the produce of the fields which the land revenue absorbs rarely exceeds one-seventh and is more often one-tenth or less. A clear proof of the general moderation of Panjab assessments is furnished by the fact that in the three years ending 1910-n the recorded prices in sales amounted to more than Rs. 125 per rupee of land revenue of the land sold, which may be taken as implying a belief on the part of purchasers that the landlord's rent is not double, but five or six times the land revenue assessment, for a man would hardly pay Rs. 125 unless he expected to get at least six or seven rupees annual profit.

Fluctuating Assessments.—The old native plan of taking a share of the crop, though it offered great opportunity for dishonesty on both sides, had at least the merit of roughly adjusting the demand to the character of the seasons. It was slowly realized that there were parts of the province where the harvests were so precarious that even a very moderate fixed cash assessment was unsuitable. Various systems of fluctuating cash assessment have therefore been introduced, and one-fourth of the total demand is now of this character, the proportion having been greatly increased by the adoption of the fluctuating principle in the new canal colonies.

Suspensions and Remissions.—Where fixity is retained the strain in bad seasons is lessened by a free use of suspensions, and, if the amounts of which the collection

has been deferred accumulate owing to a succession of bad seasons, resort is had to remission.

Irrigation Income and Expenditure.—In a normal year in the Pan jab over one-fourth of the total crops is matured by the help of Government Canals, and this proportion will soon be largely increased. In 1911-12 the income from canals amounted' to £1,474,000, and the working expenses to £984,000, leaving a surplus of £490,000. Nearly the whole of the income is derived from water rates, which represent the price paid by the cultivator for irrigation provided by State expenditure. The rates vary for different crops and on different canals. The average incidence may be roughly put at Rs. 4 or a little over five shillings per acre. In calculating the profit on canals allowance is made for land revenue dependent on irrigation, amounting to nearly £400,000.

CHAPTER XXV

PANJAB DISTRICTS AND DELHI

Districts and Divisions.—The Pan jab now consists of 28 districts grouped in five divisions. In descriptions of districts and states boundaries, railways, and roads, which appear on the face of the inset maps, are omitted. Details regarding cultivation and crops will be found in Tables II, III and IV, and information as to places of note in Chapter xxx. The revenue figures of Panjab districts in this chapter relate to the year 1911-12.

Delhi Enclave.—On the transfer of the capital of India to Delhi part of the area of the old district of that name comprising 337 estates was removed from the jurisdiction of the Panjab Government and brought under the immediate authority of the Government of India (Act No. XIII of 1912). The remainder of the district was divided between Rohtak and Gurgaon, and the headquarters of the Delhi division were transferred to Ambala.

The area of the new province is only 528 square miles, and the population including that of the City is estimated at 396,997. The cultivated area is 340 square miles, more than half of which is cultivated by the owners themselves. The principal agricultural tribe is the Hindu Jats, who are hard-working and thrifty peasant farmers. The land revenue is Rs. 4,00,203 (£26,680). The above figures only relate to the part of the enclave formerly included in the Panjab¹. The head of the administration has the title of Chief Commissioner.

¹ Some estates lying to the east of the Jamna and belonging to the United Provinces have recently been added to the enclave.

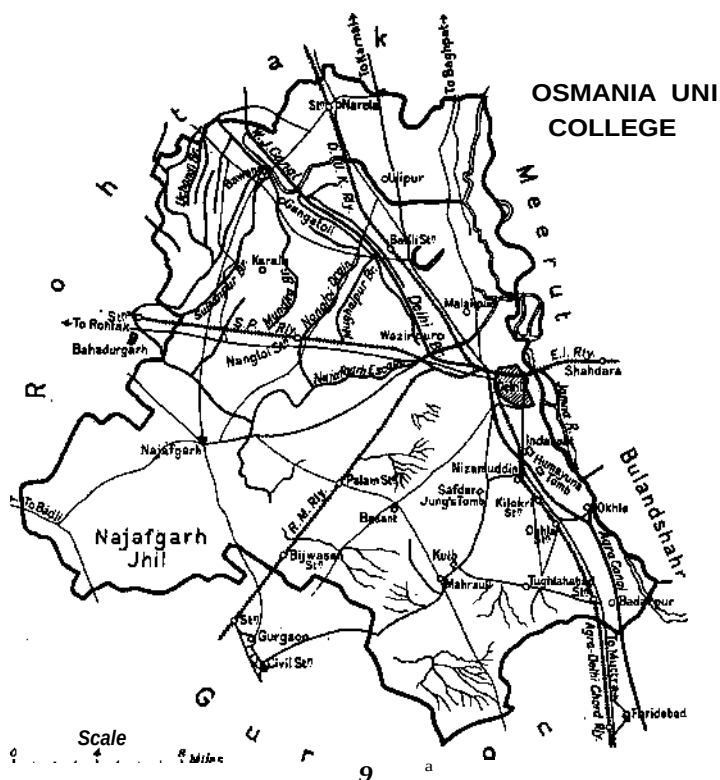


Fig. 84. Delhi Enclave.

The Ambala division includes four of the five districts of the South-Eastern Plains, the submontane district of Ambala, and the hill district of Simla. It is with the exception of Lahore the smallest division, but it ranks first in cultivated area and third in population. **It**

Area,
14,832 sq. m.
Cultd area,
10,650 sq. m. "
Pop. 3,704,608
68 p. c. H.i
Land Rev.
Rs. 66,99,136
= £446,609.

of the South-Eastern Plains, the submontane district of Ambala, and the hill district of Simla. It is with the exception of Lahore the smallest division, but it ranks first in cultivated area and third in population. It

¹ H. = Hindu, M.-Muhammadan, S. =Sikh.

is twice the size of Wales and has twice its population. The Commissioner is in political charge of the hill state of Sirmur and of five petty states in the plains.

Area, 5213 sq. m.
Cultd area,
4201 sq. m.
Pop. 804,809;
67 p. c. H.
Land Rev.
Rs. 9,76,749
= 467,117.

Hissar District.—Hissar is the south-western district of the division and has a long common boundary with Bikaner. It is divided into five *tahsils*, Hissar, Hansi, Bhiwani, Fatehabad, and Sirsa. There are four natural divisions, Nali, Bagar, Rohi, and Hariana. The overflow of the Ghagar, which runs through the

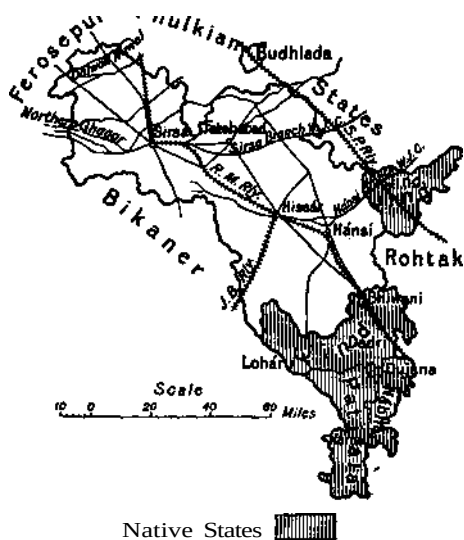


Fig. 85. Hissar with portions of Phulkian States etc.

north of the district; has transformed the lands on either bank into hard intractable clay, which yields nothing to the husbandman without copious floods. This is the Nali. The Bagar is a region of rolling sand stretching along the Bikaner border from Sirsa to Bhiwani. In Sirsa to the east

of the Bagar is a plain of very light reddish loam known as the Rohi, partly watered by the Sirhind Canal. South of the Ghagar the loam in the east of the district is firmer, and well adapted to irrigation, which much of it obtains from branches of the Western Jamna Canal. This tract is known as Hariana, and has given its name to a famous breed of cattle. The Government cattle farm at Hissar covers an area of 65 square miles. North of the Fatehabad *tahsil* and surrounded by villages belonging to the Phulkian States is an island of British territory called Budhlada. It belongs to the Jangal Des, and has the characteristic drought-resisting sandy loam and sand of that tract. Much of Budhlada is watered by the Sirhind Canal. Of the total area of the district only about 9 p.c. is irrigated. The water level is so far from the surface that well irrigation is usually impossible, and the source of irrigation is canals.

Hissar suffered severely from the disorder's which followed on the collapse of the Moghal Empire and its ruin was consummated by the terrible famine of 1783. The starving people died or fled and for years the country lay desolate. It passed into the hands of the British 20 years later, but for another 20 years our hold on this outlying territory was loose and ineffective. In 1857 the troops at Hansi, Hissar, and Sirsa rose and killed all the Europeans who fell into their hands. The Muhammadan tribes followed their example, and for a time British authority ceased to exist. The district was part of the Delhi territory transferred to the Pan jab in 1858.

The rainfall is scanty, averaging 15 inches, and extremely capricious. No other district suffers so much from famine as Hissar. The crops are extraordinarily insecure, with a large surplus in a good season and practically nothing when the rains fail badly. They consist mainly

of the cheap pulses and millets. With such fluctuating harvests it is impossible to collect the revenues with any regularity, and large sums have to be suspended in bad seasons.

Such industries as exist are mostly in Hansi and Bhiwani, where there are mills for ginning and pressing cotton. Cotton cloths tastefully embroidered with silk, known as *phulkuris*, are a well-known local product.

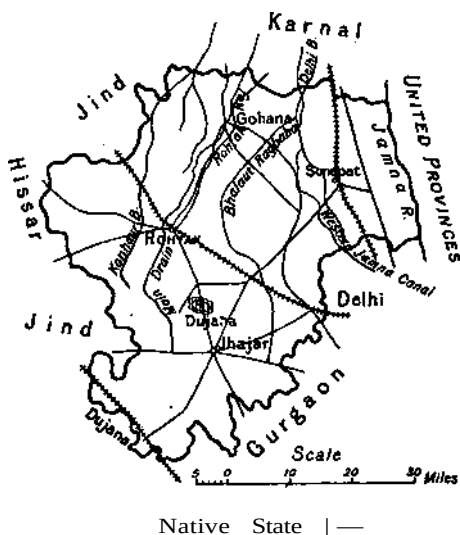


Fig. 86.

Rohtak became a British possession in 1803, but it was not till after the Mutiny that it was brought wholly under direct British administration. The old district consisted of the three *tahsils* of Rohtak, Gohana, and Jhajar, but on the breaking up of the Delhi district the Sonepat *tahsil* was added.

Rohtak is practically a purely agricultural tract with

large villages, but no towns of any importance. By far the most important agricultural tribe is the Hindu Jats. They are strong-bodied sturdy farmers, who keep fine oxen and splendid buffaloes, and live in large and well organized village communities. 37 p.c. of the cultivation is protected by canal and well irrigation, the former being by far the more important. The district consists mainly of a plain of good loam soil. There have been great canal extensions in this plain, which under irrigation is very fertile, yielding excellent wheat, cotton, and cane. There is a rich belt of well irrigation in the Jamna valley, and in the south of the district there are parts where wells can be profitably worked. Belts of uneven sandy land are found especially in the west and south. The dry cultivation is most precarious, for the rainfall is extremely variable. In the old district it averages 20 inches. But averages in a tract like Rohtak mean very little. The chief crops are the two millets and gram.

Gurgaon contains six *tahsils*, Rewari, Gurgaon, Nuh, Agra, 264 sqm. Firozpur, Palwal, and Ballabgarh. The 170sqm southern part of the district projects into

Pop. 729,167.

Land Rev. Rajputana, and in its physical and racial characteristics really belongs to that region. =410556

Rewari is the only town of any importance. It has a large trade with Rajputana. Apart from this the interests of the district are agricultural. In Gurgaon the Jamna valley is for the most part narrow and very poor. The plain above it in the Palwal *tahsil* has a fertile loam soil and is irrigated by the Agra Canal. The Hindu Jats of this part of the district are good cultivators. The rest of Gurgaon consists mostly of sand and sandy loam and low bare hills. In Rewari the skill and industry of the Hindu Ahirs have produced wonderful results considering that many of the wells are salt and much of the land very sandy. The lazy and thriftless Meos of

the southern part of the district are a great contrast to the Ahirs. They are Muhammadans.

About a quarter of the area is protected by irrigation from wells, the Agra Canal, and embankments or "*bands*," which catch and hold up the hill drainages. Owing to the depth and saltiness of many of the wells the cultivation dependent on them is far from secure, and the "*band*" irrigation is most precarious. The large dry area is subject to extensive and complete crop failures. The average rainfall over a series of years is 24 inches, but its

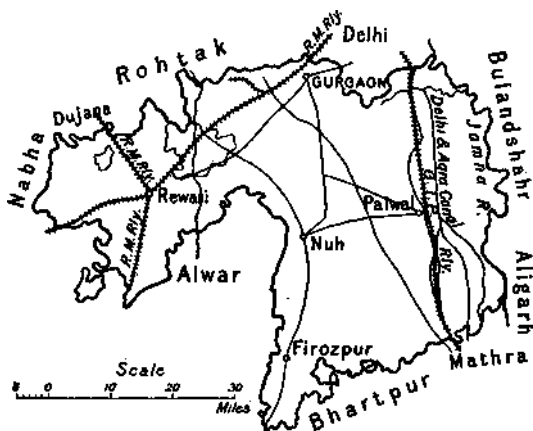


Fig. 87.

irregularities from year to year are extreme. The district is a poor one, and for its resources bears the heaviest assessment in the Panjab. It requires the most careful revenue management. There are brine wells at Sultanpur, but the demand for the salt extracted is now very small.

Karnal is midway in size between Rohtak and Hissar.

Area, 3153 sq. m.
Cultd area,
1744 sq. m.
Pop. 799,787;
70 p.c. H.
Land Rev.
Rs. 12,92,620
= £26,175.

One-third of the cultivation is now protected by irrigation, two-fifths of the irrigation being from wells and three-fifths from the Western Jamna Canal. There are four *tahsils*.

Thanesar, Karnal, Kaithal, and Panipat. The peasantry consists mostly of hardworking Hindu Jats, but there are also many Hindu and Muhammadan Rajput villages. The chief towns are Panipat, Karnal, and Kaithal.

The district falls broadly into two divisions, the boundary between them being the southern limit of the floods of the Sarusti in years of heavy rainfall. The marked features of the northern division is the effect which

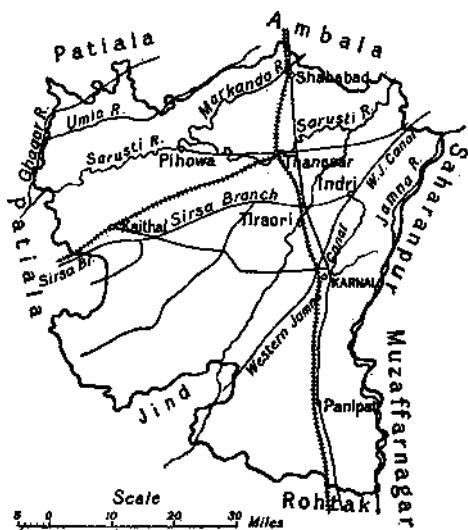


Fig. 88.

the floods of torrents of intermittent flow, the Sarusti, Markanda, Umla, and Ghagar have on agriculture. Some tracts are included like the Andarwar and the outlying villages of the Powadh¹ in Kaithal which are fortunately unaffected by inundation, and have good well irrigation. The country between the Umla and Markanda in Thanesar gets rich silt deposits and is generally fertile. The Kaithal Naili is the tract affected by the overflow of the

¹ Not shown in map.

Sarusti, Umla, and Ghagar. It is a wretched fever-stricken region where a short lived race of weakly people reap precarious harvests. The southern division is on the whole a much better country. It includes the whole of Karnal and Panipat, the south of Kaithal, and a small tract in the extreme east of the Thanesar *tahsil*. North of Karnal the Jamna valley or Khadir is unhealthy and has in many parts a poor soil. South of Karnal it is much better in every respect. Above the Khadir is the Bangar, a plain of good loam. North of Karnal its cultivation is protected by wells and the people are in fair circumstances. South of that town it is watered by the Western Jamna Canal. Another slight rise brings one to the Nardak of the Karnal and Kaithal *tahsils*. Till the excavation of the Sirsa branch of the Western Jamna Canal and of the Nardak Distributary much of the Nardak was covered with *dhak* jangal, and the cultivation was of the most precarious nature, for in this part of the district the rainfall is both scanty and capricious, and well cultivation is only possible in the north. The introduction of canal irrigation has effected an enormous change. Wheat and gram are the great crops.

Historically Karnal is one of the most interesting districts. * The Nardak is the scene of the great struggle celebrated in the Mahabharata. The district contains the holy city of Thanesar, once the capital of a great Hindu kingdom. It has found climate a more potent instrument of ruin than the sword of Mahmiid of Ghazni, who sacked it in 1014. It still on the occasion of Eclipse fairs attracts enormous crowds of pilgrims. Pihowa is another very sacred place. Naraina, a few miles to the north-west of Karnal, was the scene of two famous fights¹, and three times, in 1526, 1556, and 1761, the fate of India was decided at Panipat.

¹ See page 16a.

Ambala is a submontane district of very irregular shape. It includes two small hill tracts, Morni and Kasauli. There is little irrigation, for in most parts the rainfall is ample. Wheat is the chief crop. The population has been declining in the past 20 years.

Area, 1851 sq. m.
Cultd area,
1174 sq. m.
Pop. 689,970.
Land Rev.
Rs. 11,47,688
= 476,513.

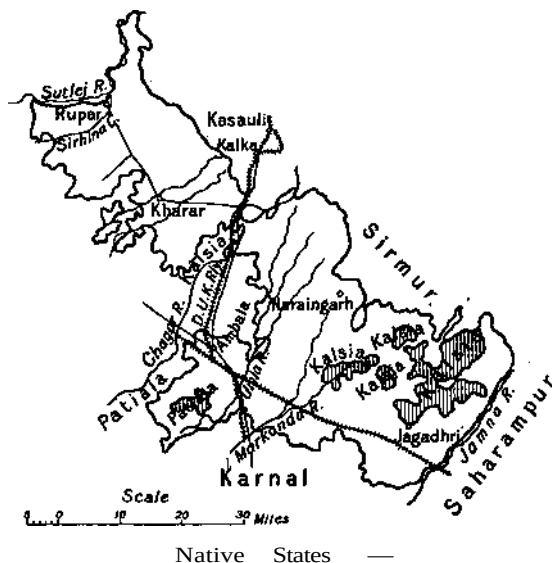


Fig. 89.

The only town of importance is Ambala. Jagadhri is a busy little place now connected through private enterprise by a light railway with the N. W. Railway. The district consists of two parts almost severed from one another physically and wholly different as regards people, language, and agricultural prosperity. The Riipar subdivision in the north-west beyond the Ghagar has a fertile soil, and, except in the Naif, as the tract flooded by the Ghagar is called, a vigorous Jat peasantry, whose native tongue is Panjabi. The three south-eastern *lahsils*,

Ambala, Naraingarh, and Jagadhri, are weaker in every respect. The loam is often quite good, but interspersed with it are tracts of stubborn clay largely put under precarious rice crops. The Jats are not nearly so good as those of Riipar, and Rajputs, who are mostly Musulmans, own a large number of estates.

Simla consists of three little tracts in the hills known as Bharauli, Kotkhai, and Kotgarh, and of patches of territory forming the cantonments of Dagshai, Subathu, Solon, and Jutogh, the site of the Lawrence Military School at Sanawar, and the great hill station of Simla.

Bharauli lies south-west of Simla in the direction of Kasauli. Kotkhai is in the valley of the Gird, a tributary of the Jamna. Kotgarh is on the Sutlej and borders on the Bashahr State. The Deputy Commissioner of Simla is also Superintendent or Political Officer of 28 hill states.

Jalandhar Division.—More than half the area of the Jalandhar division is contributed by the huge district of Kangra, which stretches from the Plains to the lofty snowy ranges on the borders of Tibet. The other districts are Hoshiyarpur in the submontane zone, Jalandhar and Ludhiana, which belong to the Central Plains, and Ferozepore, which is part of the South-Eastern Panjab. Sikhs are more numerous than in any other division, but are outnumbered by both Hindus and Muhammadans. The Commissioner has political charge of the hill states of Mandi and Suket and of Kapurthala in the Plains.

Kangra is the largest district in the Panjab. It ~~Area 978~~ ^{Area 978} sq m. includes three tracts of very different character:

- (a) Spiti and Lahul, area exceeding 4400 square miles, forming part of Tibet;
- (b) Kulu and Saraj;

Area, 101 sq. m.
Cultd area,
15 sq. m.
Pop. in Feb.
1911, 39,320.
Land Rev.
Ra. 17,484
= 41156.

Area,
19,934 sq. m.
Cultd area,
7762 sq. m.
Pop. 3,967,724.
Land Rev.
Ra. 61,64,172
= 4420,945.

(c) Kangra proper, area 2939 square miles.



Fig. 90.

Lahul, Spiti, Kulu, and Saraj form a subdivision in charge of an Assistant Commissioner. The people of Kangra are Hindus. Islam never penetrated into these hills as a religion, though the Rajput Rajas of Kangra became loyal subjects of the Moghal Emperors. In its last days Ran jit Singh called in as an ally against the Gurkhas remained as a hated ruler. The country was ceded to the British Government in 1846. The Rajas were chagrined that we did not restore to them their royal authority, but only awarded them the status of *jagirders*. An outbreak, which was easily suppressed, occurred in 1848. Since then Kangra has enjoyed 65

years of peace. A Gurkha regiment is stationed at the district headquarters at Dharmsala. The cultivation ranges from the rich maize and rice fields of Kulu and Kangra to the poor buckwheat and *kulath* on mountain slopes. Rice is irrigated by means of *kuhls*, ingeniously constructed channels to lead the water of the torrents on to the fields.

Spiti and Lahul.—Spiti, or rather Piti, is a country of great rugged mountains, whose bare red and yellow rocks rise into crests of everlasting snow showing clear under a cloudless blue sky. There is no rain, but in winter the snowfall is heavy. The highest of the mountains exceeds 23,000 feet. Piti is drained by the river of the same name, which after passing through Bashahr falls into the Sutlej at an elevation of 11,000 feet. Of the few villages several stand at a height of from 13,000 to 14,000 feet. The route to Piti from Kulu passes over the Hamtu Pass (14,200 feet) and the great Shigri glacier. The people are Buddhists. They are governed by their hereditary ruler or Nono assisted by five elders, the Assistant Commissioner exercising a general supervision. Indian laws do not apply to the sparse population of this remote canton, which has a special regulation of its own. Lahul lies to the west of Piti, from which it is separated by a lofty range. It is entered from Kulu by the Rotang Pass (13,000 feet) and the road from it to Ladakh passes over the Baralacha (16,350 feet). The whole country is under snow from December to April, but there is very little rain. The two streams, the Chandra and Bhaga, which unite to form the Chenab, flow through Lahul and the few villages are situated at a height of 10,000 feet in their elevated valleys. The people are Buddhists. In summer the population is increased by "Gaddi" shepherds from Kangra, who drive lean flocks in the beginning of June over the Rotang and take them back from the

Alpine pastures in the middle of September fat and well liking.

Kulu and Saraj.—The Kulu Valley, set in a mountain frame and with the Bias, here a highland stream, running through the heart of it, is one of the fairest parts of the Panjab Himalaya. Manali, at the top of the Valley on the road to the Rotang, is a very beautiful spot. Kulu



Fig. 91. Bids at Manali.

is connected with Kangra through Mandi by the Babbu and Dulchi passes. The latter is generally open the whole year round. The headquarters are at Sultanpur, but the Assistant Commissioner lives at Nagar. In Kulu the cultivation is often valuable and the people are well off. The climate is good and excellent apples and pears are grown by European settlers. Inner and outer Saraj are connected by the Jalaori Pass on the watershed of the Sutlej and Bias. Saraj is a much rougher and poorer country than Kulu. There are good *deodar* forests in

the Kulu subdivision. In 1911 the population of Kulu, Saraj, Lahul, and Piti, numbered 124,803. The Kulu people are a simple folk in whose primitive religion local godlings of brass each with his little strip of territory take the place of the Brahmanic gods. It is a quaint sight to see their ministers carrying them on litters to the fair at Sultanpur, where they all pay their respects to a little



Fig. 92. Religious Fair in Kulu.

silver god known as Raghunathji, who is in a way their suzerain.

Kangra proper is bounded on the north by the lofty wall of the Dhaula Dhar and separated from Kulu by the mountains of Bara Bangahal. It consists of the five *tahsils* of Kangra, Palampur, Nurpur, Dera, and Hamirpur. The first two occupy the rich and beautiful Kangra Valley. They are separated from the other three *tahsils* by a medley of low hills with a general trend from



N.W. to S.E. They are drained by the Bias, and are much more broken and poorer than the Kangra Valley. The tea industry, once important, is now dead so far as carried on by English planters. The low hills have extensive *chir* pine forests. They have to be managed mainly in the interests of the local population, and are so burdened with rights that conservation is a very difficult problem. In 1911 the population of the five *tahsils* amounted to 645,583. The most important tribes

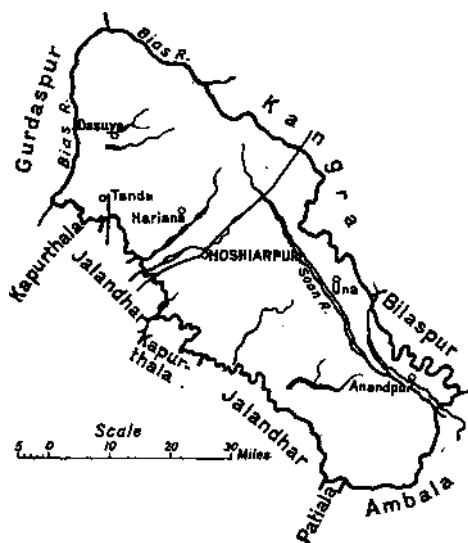


Fig. 94.

are Brahmans, Rajputs, and hardworking Girths. The hill Brahman is usually a farmer pure and simple.

Hoshiarpur became a British possession in 1846 after the first Sikh War. It is a typically submontane district. A line of low bare hills known as the Solasinghi Range divides it from Kangra. Further west the Katar dhar, a part of the Siwaliks, runs through the heart

Area, 2247 sq. m.
Cultd area,
1128 sq. m.
Pop. 918,569;

Land Rev.
Rs.1 4,22,527
£94,835-

of the district. Between these two ranges lies the fertile Jaswan Dun corresponding to the Una *tahsil*. The other three *tahsils*, Garhshankar, Hoshiyarpur, and Dasiya, are to the west of the Katar dhar. Una is drained by the Soan, a tributary of the Sutlej. The western *tahsils* have a light loam soil of great fertility, except where it has been overlaid by sand from the numerous *chos* or torrents which issue from the Siwaliks. The denudation of that range was allowed to go on for an inordinate time with disastrous results to the plains below. At last the Panjab Land Preservation (*Chos*) Act II of 1890 gave the Government power to deal with the evil, but it will take many years to remedy the mischief wrought by past inaction. The rainfall averages about 32 inches and the crops are secure. The population has fallen off by 93,000 in 20 years, a striking instance of the ravages of plague. The chief tribes are Jats, Rajputs, and Gujars.

Jalandhar District.—Modern though the town of Jalandhar looks it was the capital of a large Hindu kingdom, which included also Hoshiyarpur, Mandi, Suket, and Chamba, and in the ninth century was a rival of Kashmir (page 160). The present district is with the exception of Simla the smallest, and for its size the richest, in the province. It contains four *tahsils*, Nawashahr, Phillaur, Jalandhar, and Nakodar. About 45 p.c. of the cultivation is protected by 28,000 wells. Behind the long river frontage on the Sutlej is the Bet, divided by a high bank from the more fertile uplands. The soil of the latter is generally an excellent loam, but there is a good deal of sand in the west of the district. The rainfall averages about 26 inches and the climate is healthy. The well cultivation is the best in the Panjab. Between 1901 and 1911 the population declined by 13 p.c.

Area, 1431 sq. m.
Cultd area,
1069 sq. m.
Pop. 801,920;
45 P.c M.
33 P.c H.
22 p.c. S.
Land Rev.
Rs. 14,77,66i
= £98,511.

Jats and Arains, both excellent cultivators, are the predominant tribes. British rule dates from 1846.

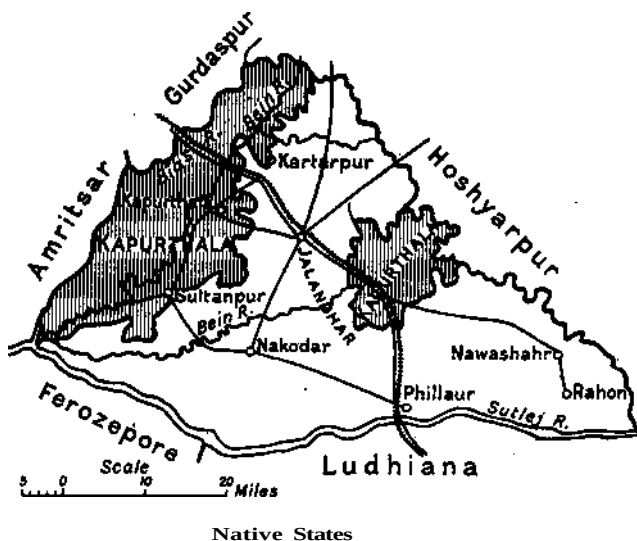


Fig. 95.

Area*, 1452 sq. m.
Cultd area,
1143*1 "i
Pop. 517ii92;
40 p.c. S.
35P-C.M.
25 p.c. H.
Land Rev.
Rs. 11,57,399
= £7,160.

Ludhiana on the opposite bank of the Sutlej is also a very small district. It consists of a river Bet and Uplands with generally speaking a good loam soil. But there are very sandy outlying estates in the Jangal Des surrounded by Patiala and Jind villages. There are three *tahsils*, Samrala, Ludhiana, and Jagraon. Of the cultivated area 26 p.c. is irrigated, from wells (19) and from the Sirhind Canal (7). Wheat and gram are the principal crops. Between 1901 and 1911 the population fell from 673,097 to 517,192, the chief cause of decline being plague.

Sturdy hard-working Jats are the backbone of the peasantry. They furnish many recruits to the Army.

Ludhiana is a thriving town and an important station on the N.W. Railway. Our connection with Ludhiana began in 1809, and the district assumed practically its present shape in 1846 after the first Sikh War.

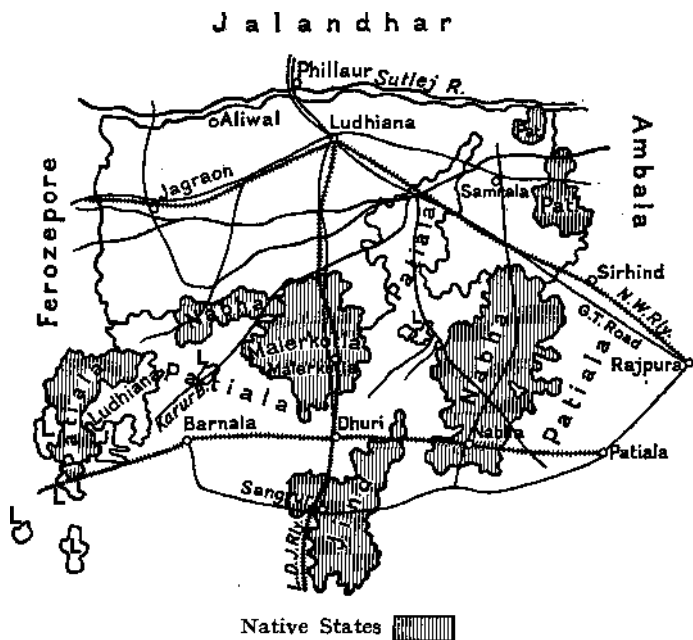


Fig. 96.

Ferozepore is a very large district. The Farfdukot State nearly cuts it in two. The northern

Area, 4286 sq. m.
Cultd area,
3504 sq. m.
Pop. 959,657;
44 p.c. M.
29 p.c. H.
27 p.c. S.
Land Rev.
Rs. 11,79,924
= £78,66x.

division includes the *tahsils* of Ferozepore, Zira, and Moga, the last with an outlying tract known as Mahraj, which forms an island surrounded by the territory of several native states. The southern division contains the *tahsils* of Muktsar and Fazilka. Our connection with

Ferozepore began in 1809, and, when the widow of the last Sikh chief of Ferozepore died in 1835, we assumed direct responsibility for the administration of a considerable part of the district. Two of the great battles of the first Sikh War, Mudki and Ferozeshah or more properly Pherushahr, were fought within its borders. Mamdot with

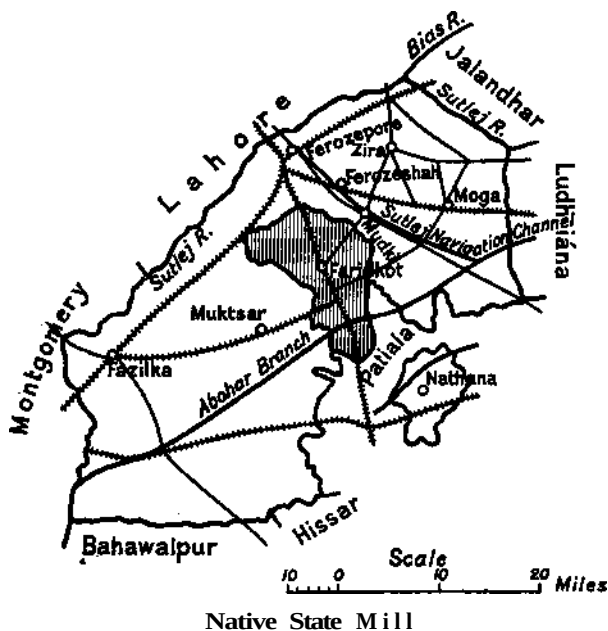


Fig. 97-

an area of about 400 square miles ceased to be independent in 1855, but the descendant of the last ruler still holds it in *jagir*. Fazilka was added in 1864 when the Sirsa district was broken up. Of the cultivated area $47\frac{1}{2}$ p.c. is irrigated by the Sirhind Canal, the Grey Inundation Canals, and wells. For the most part the district is divided into three tracts, the riverain. Hithar or Bet,

with a poor clay soil and a weak population, the Utar, representing river deposits of an older date—when the Sutlej ran far west of its present bed, and the Rohi, an upland plain of good sandy loam, now largely irrigated by the Sirhind Canal. The Grey Canals furnish a far less satisfactory source of irrigation to villages in the Bet and Utar. In different parts of this huge district the rainfall varies from 10 to 22 inches. The chief crops are gram and wheat. The Jats are the chief tribe. In the Uplands they are a fine sturdy race, but unfortunately they are addicted to strong drink, and violent crime is rife. Ferozepore has a large cantonment and arsenal and a big trade in grain. It is an important railway junction.

Lahore Division.—Lahore is the smallest division, but the first in population. Its political importance is great as the home of the Sikhs of the Manj ha, and because the capital of the province and the sacred city of the *Khdlsa* are both within its limits. It contains the five districts of Gurdaspur, Sialkot, Gujranwala, Lahore, and Amritsar. The Commissioner is in political charge of the Chamba State.

Gurdaspur is a submontane district with a good rainfall and a large amount of irrigation. The crops are secure except in part of the Shakargarh *tahsil*. 27 p.c. of the cultivated area is irrigated, 16 by wells and 11 by the Upper Bari Doab Canal. Irrigation is only allowed from the Canal for the Autumn harvest. The chief crop is wheat and the area under cane is unusually large. Of late years plague has been very fatal and the population fell from 940,334 in 1901 to 836,771 in 1911. Jats, Rajputs, Arains, Gijars, and Brahmans, are the chief agricultural tribes, the first being

Area, 22,387 sq. m.
Cultd area, 7924 sq. m.
Pop 4,656,629;
57 p.c. M.
24 „ H.
x6 „ S.
Land Rev.
Rs. 70,53,856
£470,257-

Area, 1809 sq. m.
Cultd area, 1281 sq. m.
Pop. 836,771;
49 p.c. M.
34 „ H.
4½ „ S.
Land Rev.
Rs. 17,68,412
= £117,894.

by far the most important element. There are four *tahsils*, Batala, Gurdaspur, and Pathankot in the Bar! Doab, and Shakargarh to the west of the Ravi. Batala is one of the most fertile and prosperous tracts in the Panjab and Gurdaspur is also thriving. Pathankot is damp, fever stricken, and unprosperous. It lies mostly

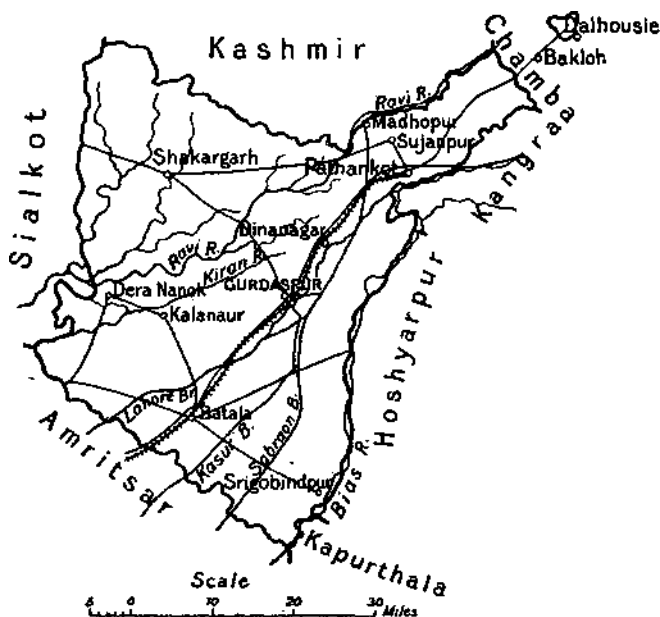


Fig. 98.

in the plains but contains a considerable area in the low-hills and higher up two enclaves, Bakloh and Dalhousie, surrounded by Chamba villages. Shakargarh is much more healthy, and is better off than Pathankot. There is good duck and snipe shooting to be got in some parts of the district, as the drainage from the hills collects in swamps and *jhils*.

Area, 1991 sq. n
Cultd area,
1427 sq. m.
Pop. 979,553;
62 p.c. M.

1;: *

Land Rev.
R* 14,79,390
- £98,626.

Siilkot is another secure and fully cultivated submontane district. It lies wholly in the Rechna Doab and includes a small well-watered hilly tract, Bajwat, on the borders of Jammu. The Ravi divides Sialkot from Amritsar and the Chenab separates it from Gujrat. The Degh and some smaller torrents run through the district. In the south there is much hard

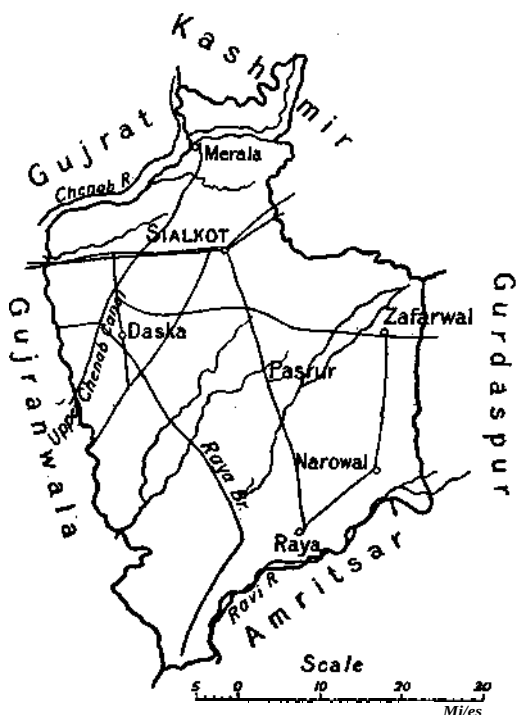


Fig. 99.

sour clay, part hitherto unculturable. But irrigation from the Upper Chenab Canal will give a new value to it. There are five *tahsils*, Zafarwal, Sialkot, Daska, Pasrur,

and Raya. The chief crop is wheat which is largely grown on the wells, numbering 22,000. The pressure of the population on the soil was considerable, but since 1891 the total has fallen from 1,119,847 to 979,553 as the result of plague and emigration to the new canal colonies.

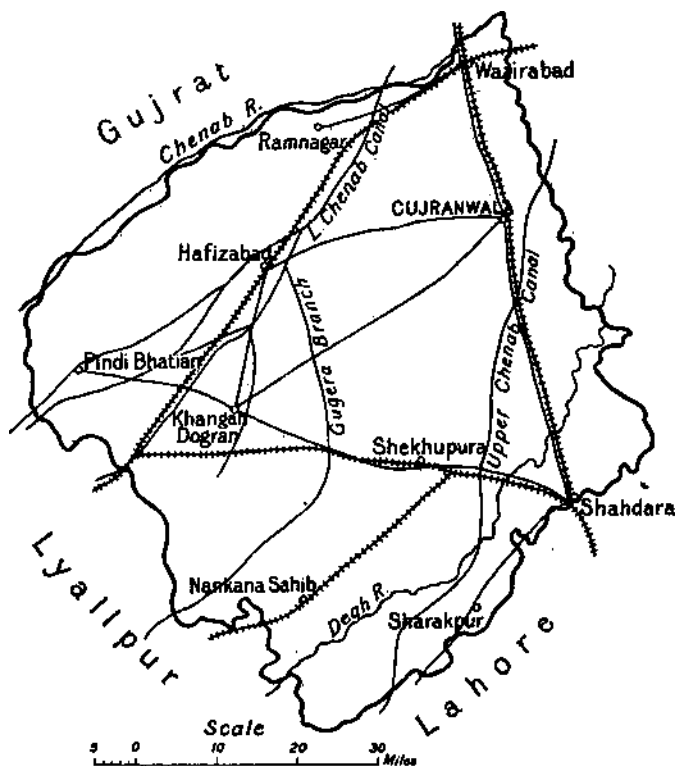


Fig. 100.

Christianity has obtained a considerable number of converts in Sialkot. The Jats form the backbone of the peasantry. Rajputs and Arains are also important tribes, but together they are not half as numerous as the Jats.

Gujranwala is a very large district in the Rechna

Area, 4802 sq. m.
Cultd area,
2166 sq. m.
Pop. 923,4x9.
Land Rev.
Rs 15,43,440
£102,896.

Doab, with five *tahsils*, Wazirabad, Gujranwala, Sharakpur, Hafizabad, and Khangah Dogran. The rainfall varies from 20 inches on the Sialkot border to ten or eleven in the extreme south-west corner of the district. Gujranwala is naturally divided into three tracts: the Riverain of the Ravi and Chenab, the Bangar or well tract, and the Bar once very partially cultivated, but now commanded by the Lower and Upper Chenab Canals. Enormous development has taken place in the Hafizabad and Khangah Dogran *tahsils* in the 20 years since the Lower Chenab Canal was opened. Of late years the rest of the district has suffered from plague and emigration, and has not prospered. But a great change will be effected by irrigation from the Upper Chenab Canal, which is just beginning. In the east of the district much sour clay will become culturable land, and the Bar will be transformed as in the two *tahsils* watered by the older canal. Of the cultivated area 73½ p.c. is irrigated, 36½ from wells and 37 from canals. The chief crops are wheat and gram. There is, as is usual in the Western Pan jab, a great preponderance of Spring crops. The Jats are far and away the strongest element in the population.

Amritsar is a small district lying in the Bari Doab

Area, 1601 sq. m.
Cultd area,
1184 sq. m.
Pop. 880,728;
46 p.c. M.
29 " £
24 " H.
Land Rev.
Rs. 12,70,799
= £84,720.

between Gurdaspur and Lahore. 62 p.c. of the cultivated area is irrigated, half from 12,000 wells and half from the Upper Bari Doab Canal. Unfortunately much water-logging exists, due to excessive use of canal water and defective drainage. Measures are now being taken to deal with this great evil, which has made the town of Amritsar and other parts of the district liable to serious outbreaks of fever. There are two small riverain tracts on the Bids and Ravi and a poor piece of

country in Ajnala flooded by the Sakki. The main part of the district is a monotonous plain of fertile loam. The two western *tahsils*, Amritsar and Tarn Taran, are prosperous, Ajnala is depressed. The rainfall is moderate averaging 21 or 22 inches, and the large amount of irrigation makes the harvests secure. The chief crops are wheat and gram.



Fig. 101.

The Sikh Jats of the Manjha to the south of the Grand Trunk Road form by far the most important element in the population. Between 1901 and 1911 there was a falling off from 1,023,828 to 880,728. Besides its religious importance the town of Amritsar is a great trade centre.

Lahore lies in the Ban Doab to the south-west of Amritsar. It is a much larger district, though, like Amritsar, it has only three *tahsils*, Lahore, Kasur, and Chiinian. 76 p.c. of the cultivated area is irrigated, 23 from wells and 53 from canals. There has been an enormous

Area, 2824 sq. m.
Cultd area,
1866 sq. m.
Pop. 1,036,158.
Land Rev.
Rs. 991,815
= £66,121.

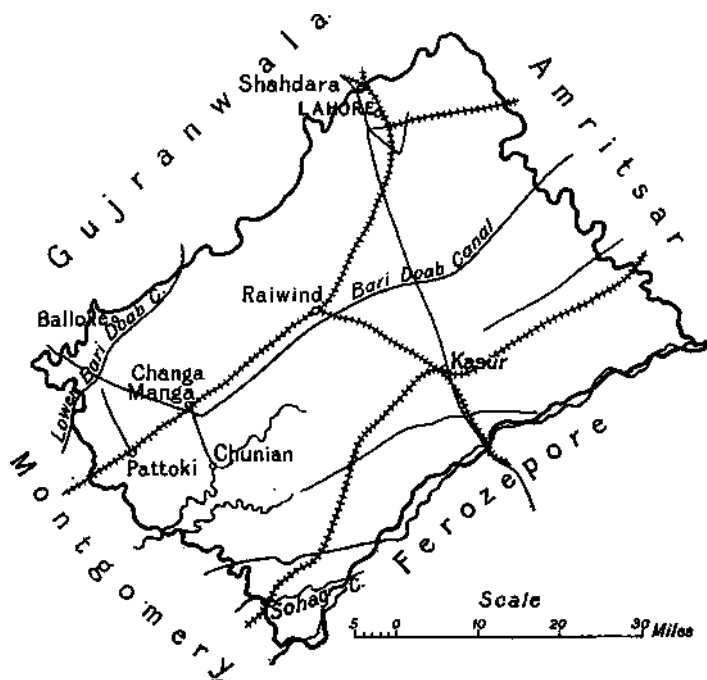


Fig. 102.

extension of irrigation from the Upper Bari Doab Canal in the past 30 years. Accordingly, though the rainfall is somewhat scanty, the crops are generally secure. The principal are wheat and gram. The district consists of the Riverain on the Bias and Ravi, the latter extending

to both sides of the river, and the plain of the Manjha, largely held by strong and energetic Sikh Jats. In the Ravi valley industrious Arains predominate. Railway communications are excellent. Trade activity is not confined to the city of Lahore. Kasiir, Chiinian, and Raiwind are important local centres.

The Rawalpindi Division occupies the N.W. of the Panjdb. It is in area the second largest division, but in population the smallest. Five-sixths of the people profess the faith of Islam. It includes six districts, Gujrat, Jhelam, Rawalpindi, Attock, Mianwalf, and Shahpur. This is the division from which the Pan jab Musalmans, who form so valuable an element in our army, are drawn.

Area,
ax,361 sq. m.
Cultd area,
8099 sq. m.
Pop- 3,353,052;
87 p.c. M.
Land Rev.
Rs. 50,43,587
£336,239.

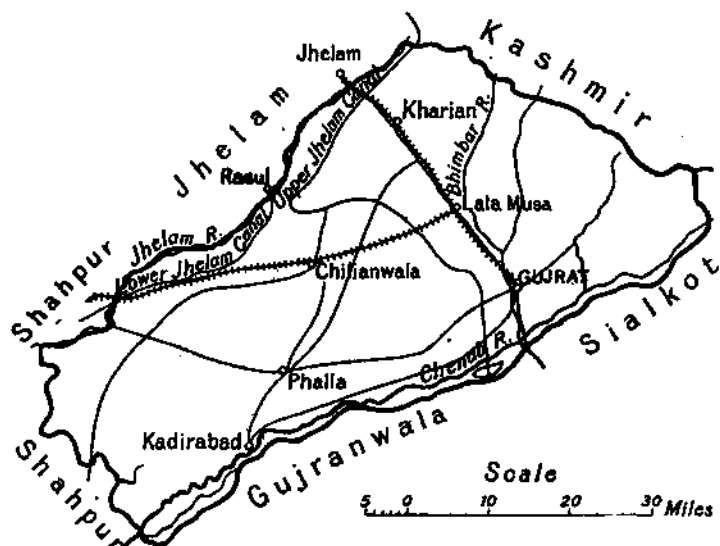


Fig. 103.

Gujrat lies in the Jech Doab. The two northern *tahsils*, Gujrat and Kharian, have many of the features of a submontane tract. In the former the Pabbi, a small range of low bare hills, runs parallel to the Jhelam, and the outliers of the Himalaya in Kashmir are not far from the northern border of the district. The uplands of these two *tahsils* slope pretty rapidly from N.E. to S.W., and contain much light soil. They are traversed by sandy torrents, dry in winter, but sometimes very destructive in the rains. Phalia on the other hand is a typical plain's *tahsil*. It has on the Chenab a wide riverain, which also separates the uplands of the Gujrat *tahsil* from that river. The Jhelam valley is much narrower. Above the present Chenab alluvial tract there is in Phalia a well tract known as the Hithar whose soil consists of older river deposits, and at a higher level a Bar, which will now receive irrigation from the Upper Jhelam Canal and become a rich agricultural tract. 26 p.c. of the cultivated area is irrigated from wells. Jats and Gujars are the great agricultural tribes, the former predominating. The climate is mild and the rainfall sufficient. The chief crops are wheat and *bdjra*.

The **Jhelam district** lies to the north of the river of the same name. The district is divided into three *tahsils*, Jhelam, Chakwal, Pind Dadan Khan. The river frontage is long, extending for about 80 miles, and the river valley is about eight miles wide. The district contains part of the Salt Range, from the eastern end of which the Nil! and Till a spurs strike northwards, enclosing very broken ravine country called the Khuddar. The Pabbi tract, embracing the Chakwal *tahsil* and the north of the Jhelam *tahsil*, is much less broken, though it too is scored by deep ravines and traversed by torrents, mostly flowing

Area, 2357 sq. m.
Cultd area,
1369 sq. m.
Pop. 784,011.
Land Rev.
Rs. 887,220
£59,148.

Area, 2813 sq. m.
Cultd area,
1162 sq. m.
Pop. 511,575;
88 p.c. M.
Land Rev.
Rs. 752,758
£50,183.

north-west into the Sohan river. Two large torrents, the Kaha and the Bunhar, drain into the Jhelam. There are some fertile valleys enclosed in the bare hills of the Salt Range. The average rainfall is about 20 inches and the climate is good. It is hot in summer, but the cold weather is long, and sometimes for short periods severe. There is little irrigation and the harvests are by no means secure. The chief crops are wheat and *bajra*. The country

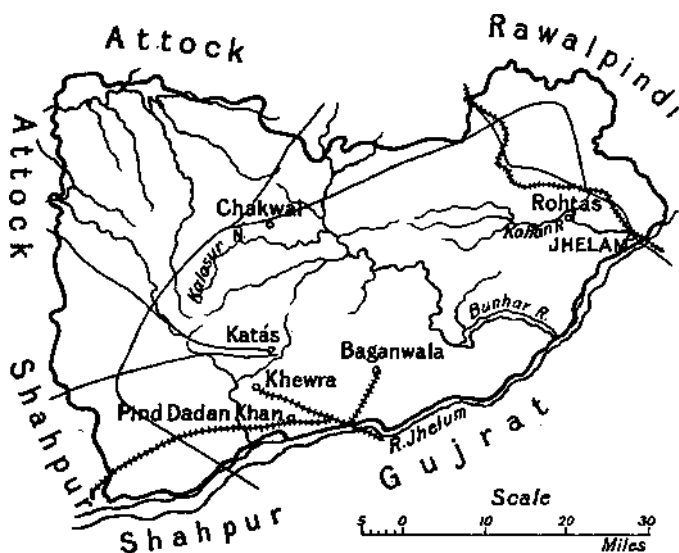


Fig. 104.

breeds fine horses, fine cattle, and fine men. Numerically Jats, Rajputs, and Awans are the principal tribes, but the Janjuas and Gakkhars, though fewer in number, are an interesting element in the population, having great traditions behind them. Awans, Janjuas, and Gakkhars supply valuable recruits to the army. Most of the villages are far from any railway.

Rawalpindi is the smallest district in the division.

Area, 20x0 sq. m.

Cultd area,

937 sq. m.

Pop. 547,827;

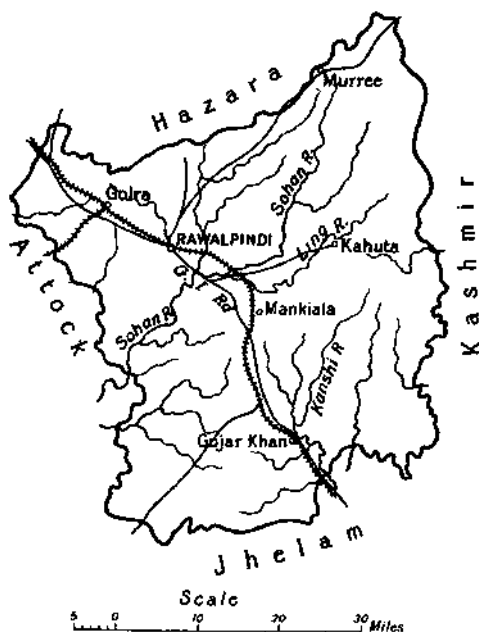
83 p.c. M.

Land Rev.

Rs. 674,650

= 444,977.

Along the whole eastern border the Jhelam, which, runs in a deep gorge, divides it from Kashmir. There are four *tahsils*, Murree, Kahiita, Rawalpindi, and Gijjar Khan. The first is a small wedge of mountainous country between Kashmir and Hazara. The hills are



continued southwards at a tower level in the Kahiita *tahsil* parallel with the Jhelam. The greater part of the district consists of a high plateau of good light loam, in parts much eaten into by ravines. Where, as often happens, it is not flat the fields have to be carefully banked up. The plateau is drained by the Sohan

and the Kanshi. The latter starting in the south of Kahiita runs through the south-east of the Gijjar Khan *tahsil*, and for some miles forms the boundary of the Rawalpindi and Jhelam districts. The district is very fully cultivated except in the hills. In the plains the rainfall is sufficient and the soil very cool and clean, except in the extreme west, where it is sometimes gritty, and, while requiring more, gets less, rain. The chief crops are wheat, the *Kharif* pulses and *bajra*. The



Fig. 106. Shop in Murree Bazar.

climate is good. The cold weather is long, and, except in January and February, when the winds from the snows are very trying, it is pleasant. In the plains the chief tribes are Rajputs and A wans. Gakkhars are of some importance in Kahiita. In the Murree the leading tribes are the Dhiinds and the Sattis, the latter a fine race, keen on military service.

Rawalpindi is the largest cantonment in Northern India. From it the favourite hill station of Murree is easily reached, and soon after leaving Murree the traveller

crosses the Jhelam by the Kohala bridge and enters the territory of the Maharaja of Kashmir.

Attock district.—Though Attock is twice the size of Rawalpindi it has a smaller population. Nature has decreed that it should be sparsely peopled. The district stretches from the Salt Range on the south to the Hazara border on the north. It contains itself the fine

Area, 4025 sq. m.
Cultd area,
1678 sq. m.
Pop. 519,273;
ox p.c. M.
Land Rev.
Rs. 672,851
£44,857.

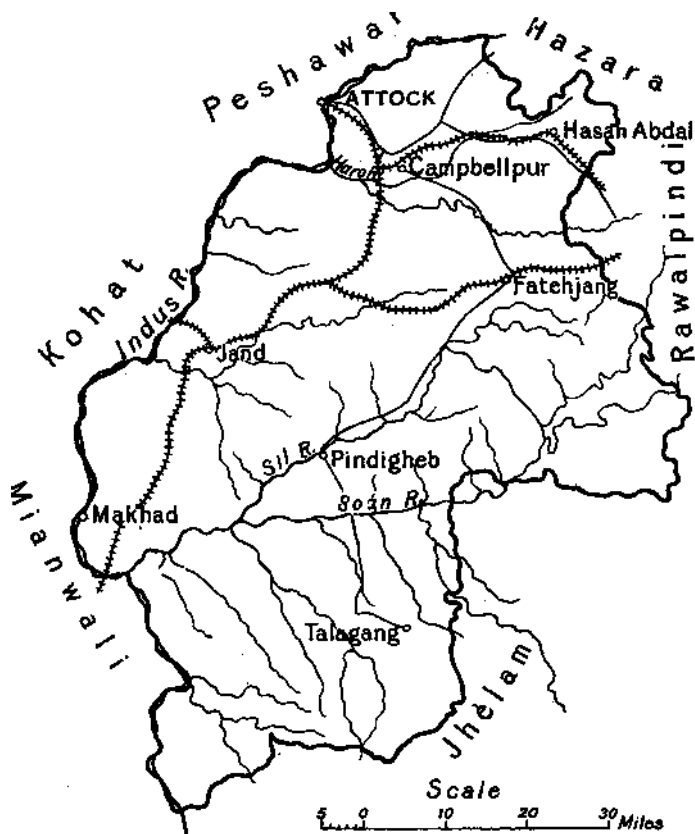


Fig. 107.

Kalachitta range in the north, the small and barren Khairi Murat range in the centre, and a line of bare hills running parallel with the Indus in the west. That river forms the western boundary for 120 miles, dividing Attock from Peshawar and Kohat. It receives in the Attock district two tributaries, the Haro and the Soan. There are four *tahsils*, Attock, Fatehjang, Pindigheb, and Talagang. The northern *tahsil* of Attock is most favoured by nature. It contains the Cbach plain, part of which has a rich soil and valuable well irrigation, also on the Hazara border a small group of estates watered by cuts from the Haro. The south of the *tahsil* is partly sandy and partly has a dry gritty or stony soil. Here the crops are very insecure. The rest of the district is a plateau. The northern part consists of the *tahsils* of Fatehjang and Pindigheb drained by the Soan and its tributary the Sil. The southern is occupied by *tahsil* Talagang, a rough plateau with deep ravines and torrents draining northwards into the Soan. In the valleys of the Sil and Soan some good crops are raised. The soil of the plateau is very shallow, and the rainfall being scanty the harvest is often dried up. The chief crops are wheat and *bajra*. Awans form the bulk of the agricultural population.

Mianwali is one of the largest districts, but has the smallest population of any except Simla. The Indus has a course of about 180 miles in Mianwali. In the north it forms the boundary between the Mianwali *tahsil* and the small Isakhel *tahsil* on the right bank. In the south it divides the huge Bhakkar *tahsil*, which is bigger than an average district, from the Dera Ismail Khan district of the N.W.F. Province. It is joined from the west by the Kurram, which has a short course in the south of the Isakhel *tahsil*. The Salt Range extends into the

Area, 5395 «q. m.
Cultd area,
1020 sq. m.
Pop. 34[:377;
88 p.c. M.
Land Rev.
Rs. 359,836
£23,989.

district, throwing off from its western extremity a spur which runs north to the Indus opposite Kalabagh. Four tracts may be distinguished, two large and two small. North and east of the Salt Range is the Khuddar or ravine country, a little bit of the Awankari or Awan's

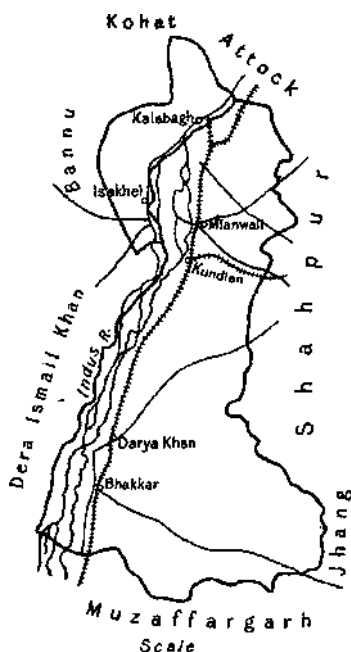


Fig. 108.

land, which occupies a large space in Attock. West of the Indus in the north the wild and desolate Bhangi Khel glen with its very scanty and scattered cultivation runs north to the Kohat Hills. The rest of the district consists of the wide and flat valley of the Indus and the Thal or Uplands. In the north the latter includes an area of strong thirsty loam, but south of the railway it is a huge

expanse of sand rising frequently into hillocks and ridges with some fertile bottoms of better soil. Except in the north the Thal people used to make their living almost entirely as shepherds and camel owners. There were scattered little plots of better soil where wells were sunk, and the laborious and careful cultivation was and is Dutch in its neatness. Some millets were grown in the autumn and the sandhills yielded melons. The people have now learned that it is worth while to gamble with a spring crop of gram, and this has led to an enormous extension of the cultivated area. But even now in Mianwali this is a comparatively small fraction of the total area. There is a small amount of irrigation from wells and in the neighbourhood of Isakhel from canal cuts from the Kurram. Owing to the extreme scantiness of the rainfall the riverain depends almost entirely on the Indus floods, to assist the spread of which a number of embankments are maintained. Everywhere in Mianwali the areas both of crops sown and of crops that ripen fluctuate enormously, and much of the revenue has accordingly been put on a fluctuating basis. The chief crops are wheat, *bajra*; and gram. Jats¹ are in a great majority Cis-Indus, but Pathans are important in Isakhel.

Shahpur is also a very large district with the three *tahsils* of Bhera, Shahpur, and Sargodha in the Jech Doab, and on the west of the Jhelam the huge Khushab *tahsil*, which in size exceeds the other three put together. The principal tribes are Jats Cis-Jhelam, Awans in the Sadt Range, and Jats and Tiwanas in Khushab. The Tiwana Malikhs have large estates on both sides of the river and much local influence. East of the Jhelam the colonization of the Bar after the opening of the Lower Jhelam Canal has led to a great increase of population

Area, 4791 sq. m.
Cultd area,
1933 »q.m.
Pop. 648,989.
Land Rev.
Rs. 16,96,272
« £113,085.

¹ This leading *tribe* in the Pan jab is known as J at in the Hindi-speaking Eastern districts and as Jat elsewhere.

and a vast extension of the cultivated area, 71 p.c. of which is irrigated. The part of the district in the Jech Doab consists of the river valleys of the Chenab and Jhelam, the Utar, and the Bar. The Chenab riverain is poor, the Jhelam very fertile with good well irrigation. In the north of the district the Utar, a tract of older alluvium, lies between the present valley, of the

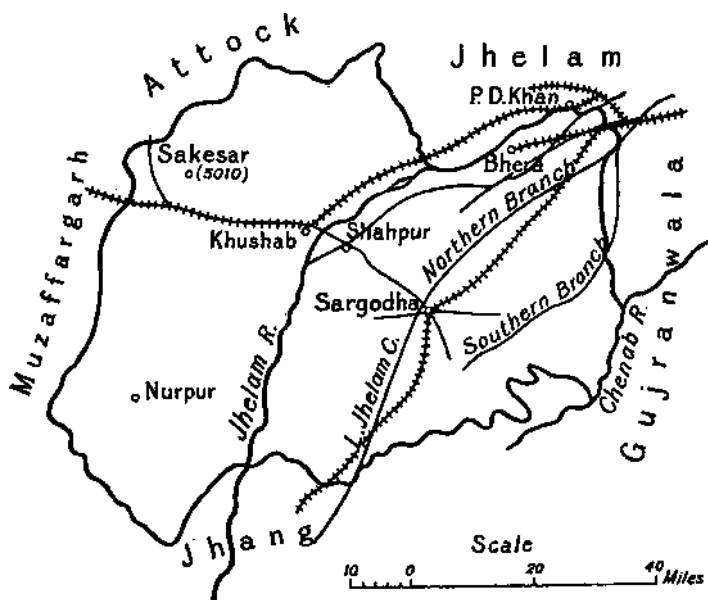


Fig. 109.

Jhelam and the Bar. It has hitherto been largely irrigated by public and private inundation canals, but this form of irrigation may be superseded by the excavation of a new distributary from the Lower Jhelam Canal. Till the opening of that canal the Bar was a vast grazing area with a little cultivation on scattered wells and in natural hollows. North of the Kirana Hill the soil is excellent and the country is now a sheet of

cultivation. In the south of the Bar much of the land is too poor to be worth tillage. The Khushab *tahsil* consists of the Jhelam riverain, the Salt Range with some fertile valleys hidden amid barren hills, the Mohar below the hills with a thirsty soil dependent on extremely precarious torrent floods, and the Thai, similar to that described on page 260. The rainfall of the district is scanty averaging eleven or twelve inches. The chief crops are wheat, *bajra* and *jowdr*, *chart* and cotton.

The Multan division consists of the six districts of the S.W. Panjab, Montgomery, Lyallpur, Jhang, Multan, Muzaffargarh, and Dera Ghazf Khan. Muhammadans are in an overwhelming majority. Wheat and cotton are the chief crops.

The Montgomery district takes its name from Sir Robert Montgomery (page 192). It lies in the Barf Doab between the Sutlej and the Ravi. It consists of the two Ravi *tahsils* of Gugera and Montgomery, and the two Sutlej *tahsils* of Dipalpur and Pakpattan. The trans-Ravi area of the Montgomery district was transferred to Lyallpur in April, 1913. It is included in the figures for area and population given in the margin.

The backbone of the district is a high and dry tract known as the Ganji or Bald Bar. The advent of the Lower Bari Doab Canal will entirely change the character of this desert. Its south-eastern boundary is a high bank marking the course of the old bed of the Bias. Below this is the wide Sutlej valley. The part beyond the influence of river floods depends largely on the Khanwah and Sohag Para inundation Canals. The Ravi valley to the north-west of the Bar is naturally fertile and has good well irrigation. But it has suffered much by the failure of the Ravi floods.

Area, 28,652 sq. m.
Cultd area, 9x60 sq. m.
Pop. 3,772,728;
78 p.c. M.
Land Rev.
Rs. 81,48,103
= £542,872.

Area, 4649 sq. m.
Cultd area, 1080 sq. m.
Pop. 535,299;
75 p.c. M.
Land Rev.
Rs. 434,503
£28,971.

The peasantry belongs largely to various tribes described vaguely as Jats. The most important are Kathias,

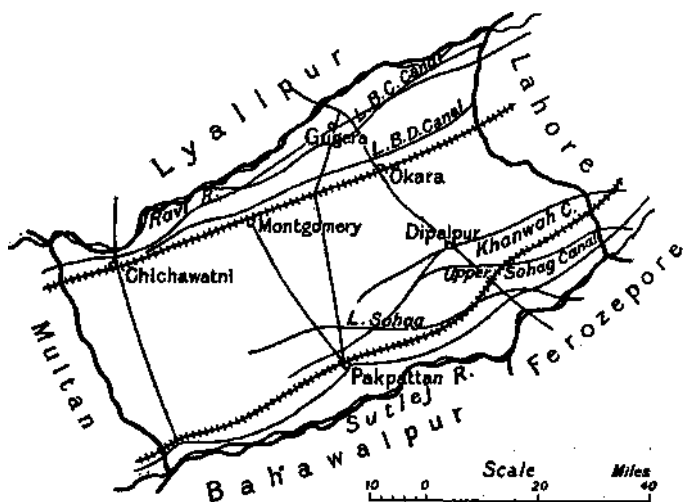


Fig. no.

Wattus, and Kharrals. The last gave trouble in 1857 and were severely punished. The Dipalpur Kamboh's are much more hard-working than these semi-pastoral Jats. There is already a small canal colony on the Sohag Para Canals and arrangements for the colonization of the Ganj Bar are now in progress.

The Lyallpur district occupies most of the Sandal Bar,

Area, 3x56 sq. m.
Cultd area,
2224 sq. m.
Pop. 857,711;
61 p.c. M.
18 „ H.
17 „ S.
4 „ Ch.t
Land Rev.
Rs. 37,55,139
£237,000.

which a quarter of a century ago was a desert producing scrub jungle and, if rains were favourable, excellent grass. It was the home of a few nomad graziers. The area of the district, which was formed in 1904 and added to from time to time, has been taken

out of the Crown Waste of the Jhang and Montgomery districts on its colonization after the opening of the Lower

¹ Ch. = Christian.

Chenab Canal. Some old villages near the present borders of these two districts have been included. The colonization of the Sandal Bar has been noticed on pages 139-140.

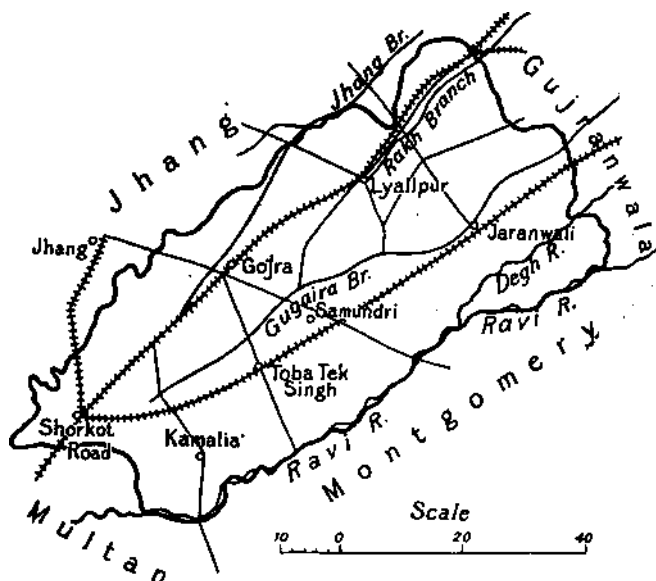


Fig. III.

The figures for area and population given in the margin are for the district as it was before the addition of the trans-Ravi area of Montgomery.

Lyallpur is divided into the four *tahsils* of Lyallpur, Jaranwala, Samundri, and Toba Tek Singh. It consists almost entirely of a flat plain of fertile loam with fringes of poor land on the eastern, western, and southern edges. The cultivated area is practically all canal irrigated. The rainfall of 10 inches does not encourage dry cultivation. The chief crops are wheat, the oil seed called *toria*, cotton, and gram. The area of the first much exceeds that of the other three put-together. There is an enormous export of wheat and oil seeds to Karachi.

The rainfall is about ten inches and the summer long and very hot. The chief crops are wheat, *jowar*, and *chart*. The Sials are few in number, but are the tribe that stands highest in rank as representing the former rulers.

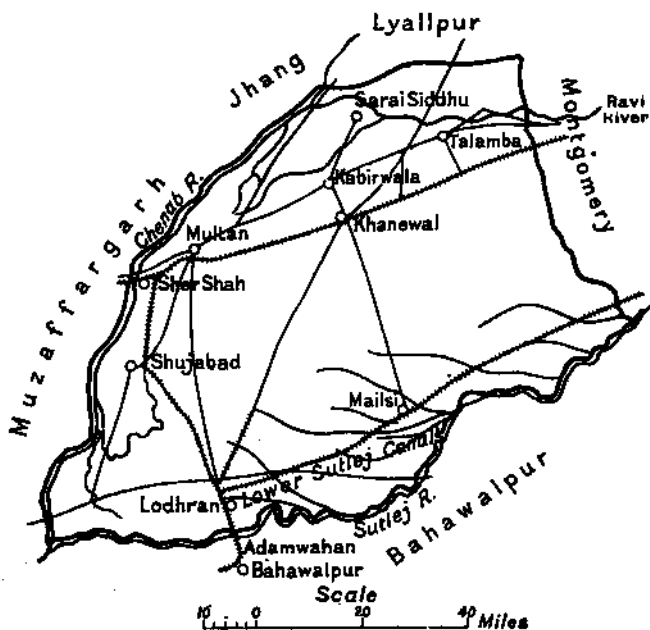


Fig. 113.

Multan occupies the south of the Bari Doab. The Ravi flows from east to west across the north of the district and falls into the Chenab within its boundary. The Sutlej meets the combined stream of the Jhelam, Chenab, and Ravi at the south-west corner of the district,

Area, 6107 sq. m.
Cultd area,
1756 sq. m.
Pop. 814,871;
82 p.c. M.
Land Rev.
R. 13,74,472
£91,631.

A part of the Kabirwala *tahsil* lies beyond the Ravi. The other four *tahsils* are Multan, Shujabad, Lodhran, and Mailsi. In a very hot district with an average rainfall of six inches cultivation must depend on irrigation

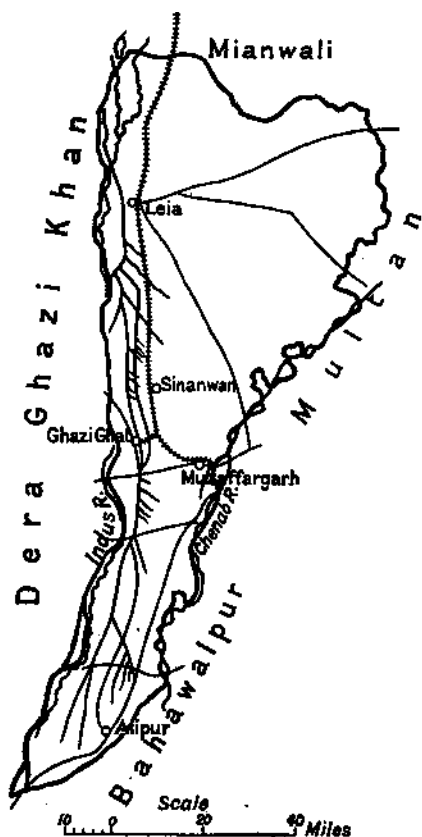
or river floods. The present sources of irrigation are inundation canals from the Chenab and Sutlej supplemented by well irrigation, and the Sidhnai Canal from the Ravi. The district consists of the river valleys, older alluvial tracts slightly higher than these valleys, but which can be reached by inundation canals¹, and the high central Bar, which is a continuation of the Ganji Bar in Montgomery. Part of this will be served by the new Lower Bari Doab Canal. The population consists mainly of miscellaneous tribes grouped together under the name of Jats, the ethnological significance of which in the Western Panjab is very slight. They are Muhammadans. The district is well served by railways.

Muzaffargarh is with the exception of Kangra the biggest Panjab district. It forms a large triangle with its apex in the south at the junction of the Indus and Panjnad. On the west the Indus forms the boundary for 180 miles. On the east Muzaffargarh has a river boundary with Bahawalpur and Multan, but, where it marches with Jhang, is separated from it by the area which that district possesses in the Sind Sagar Doab. There are four *tahsils*, Leia, Sinanwan, Muzaffargarh, and Alipur, the first being equal in area to a moderately sized district. The greater part of Leia and Sinanwan is occupied by the Thai. The southern tongue of the Thai extends into the Muzaffargarh *tahsil*. The rest of that district is a heavily inundated or irrigated tract, the part above flood level being easily reached by inundation canals. Dry cultivation is impossible with a yearly rainfall of about six inches. The chief crop is wheat. In the south of the district the people live in frail grass huts,

Area, 6052 sq. m.
Cultd area,
1163 sq. m.
Pop. 569,461;
87 p.c. M.
Land Rev.
Rs. 873,491

¹ There is a project for improving the water-supply of inundation canals in the west of the district by building a weir across the Chenab below its junction with the Jhelam.

and when the floods are out transfer themselves and their scanty belongings to wooden platforms.



Dera Ghazi Khan district.—When the N.W. Frontier Province was separated from the Panjab, the older province retained all the trans-Indus country in which Biluches were the predominant tribe. The Panjab therefore kept Dera Ghazi Khan. It has a river frontage

Area. 5325 sq. m.
Cultd area,
1723 sq. m.
Pop. 499,860.
88 p.c. M.
Land Rev.
R= 542,473
« £36,165.

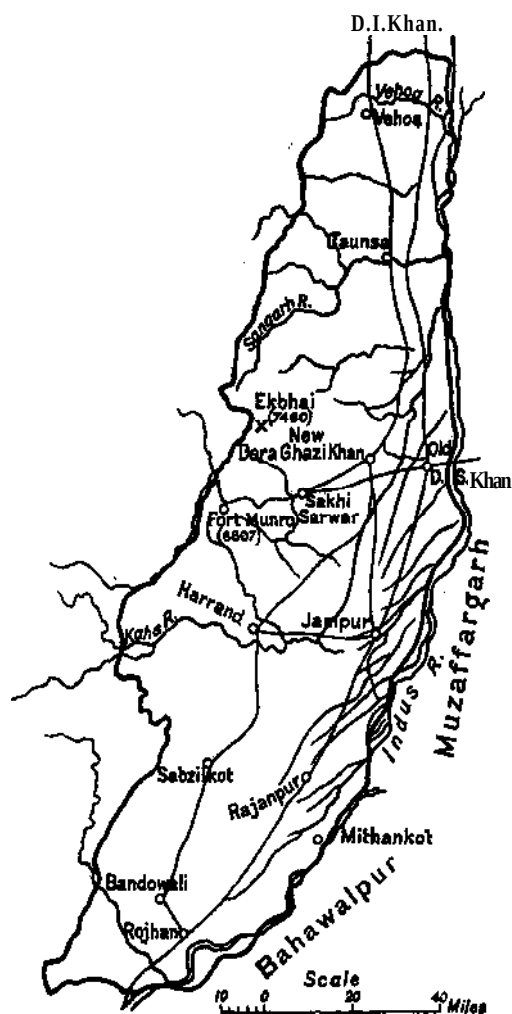


Fig. 115.

on the Indus about 230 miles in length and on the west is bounded by the Suliman Range, part of which is included within the district. The Deputy Commissioner of Dera Ghazf Khan and the Commissioner of Multan spend part of the hot weather at Fort Munro. The wide Indus valley is known as the Sindh. The tract between it and the Hills is the Pachadh. It is seamed by hill torrents, three of which, the Vehoa, the Sangarh, and the Kaha, have a thread of water even in the cold season. The heat in summer is extreme, and the *luh*, a moving current of hot air, claims its human victims from time to time. The cultivation in the Sindh depends on the river floods and inundation canals, helped by wells. In the Pachadh dams are built to divert the water of the torrents into embanked fields. The cultivated area is recorded as 1723 square miles, but this is enormously in excess of the cropped areas, for a very large part of the embanked area is often unsown. The encroachments of the Indus have enforced the transfer of the district headquarters from Dera Ghazi Khan to a new town at Choratta. Biluches are the dominant tribe both in numbers and political importance. They with few exceptions belong to one or other of the eight organized clans or tumans, Kasranis, Sori Lunds, Khosas, Lagharis, Tibbi Lunds, Gurchanfs, Drishaks, and Mazarfs. The most important clans are Mazarfs, Lagharis, and Gurchanfs. Care has been taken to uphold the authority of the chiefs. The Deputy Commissioner is political officer for such of the independent Biluch tribes across the administrative frontier as are not included in the Biluchistan Agency. Regular troops have all been removed from the district. The peace of the borderland is maintained by a tribal militia under the command of a British officer.

CHAPTER XXVI

THE PANJAB NATIVE STATES

i. *The Phulkian States*

Phulkian States.—The three Phulkian States of Patiala, Jind, and Nabha form a political agency under the Panjab Government. They occupy, with Bahawalpur and Hissar, the bulk of that great wedge of light loam and sand which Rajputana, physically considered, pushes lorthwards almost to the Sutlej. In the Phulkian States this consists of two tracts, the Powadh and the Jangal Des. The former, which occupies the north and north-east of their territory, possesses a light fertile loam soil and a very moderate natural water level, so that well irrigation is easy. The Jangal Des is a great tract of sandy loam and sand in the south-west. Water lies too deep for the profitable working of wells, but the harvests are far less insecure than one would suppose looking to the scantiness of the rainfall. The soil is wonderfully cool and drought-resisting. The dry cultivation consists of millets in the Autumn, and of gram and mixed crops of wheat or barley and gram in the Spring, harvest. The three states have rather more than a one-third share in the Sirhind Canal, their shares *inter se* being Patiala 83.6, Nabha 8.8, and Jind 7.6. Portions of the Powadh and Jangal Des are irrigated. In the case of the Powadh there has been in some places over irrigation

Area, 7599 sq. m.
Pop. 1,928,724.
Rev.
Rs. 118,00,000
=£86,666.

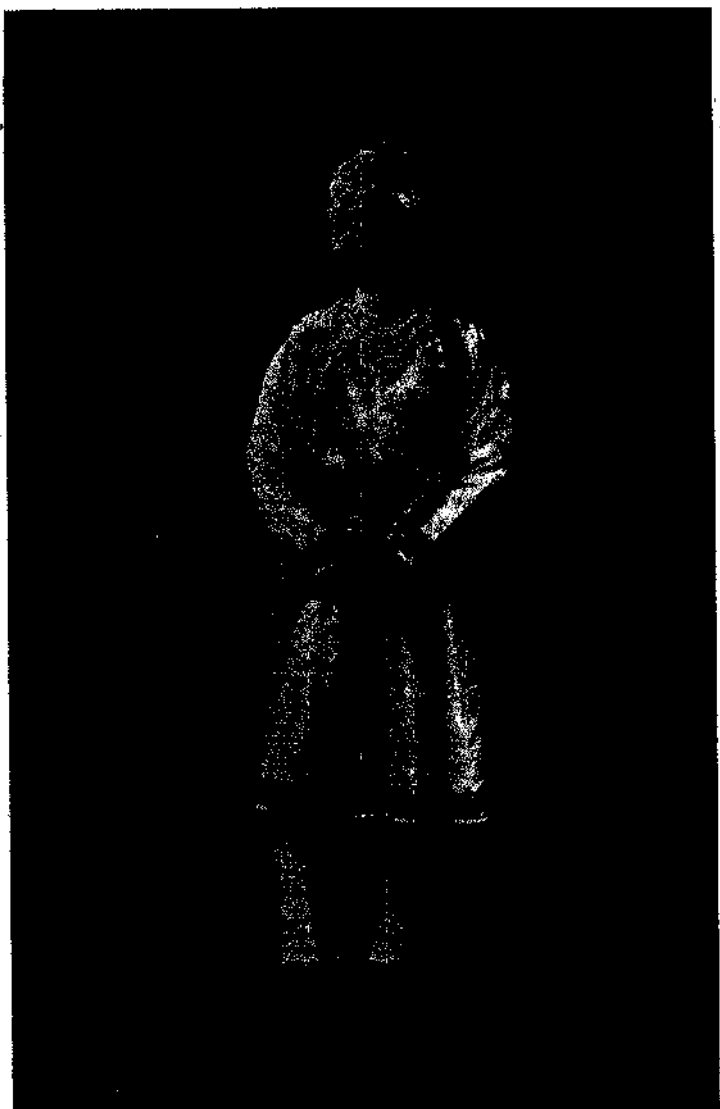
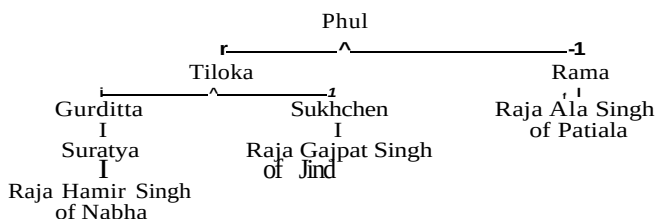


Fig. 116. Maharaja of Patiala.

considering how near the surface the water table is. The Nirwana *tahsil* in Patiala and the part of Jind which lies between Karnal and Rohtak is a bit of the Bangar tract of the south-eastern Pan jab, with a strong loam soil and a naturally deep water level. The former receives irrigation from the Sirsa, and the latter from the Hansi, branch of the Western Jamna Canal. The outlying tracts to the south of Rohtak and Gurgaon, acquired after the Mutiny, are part of the dry sandy Rajputana desert, in which the *Kharif* is the chief harvest, and the millets and gram the principal crops. In addition Patiala has an area of 294 square miles of territory immediately below and in the Simla Hills. The territory of the Phulkian States is scattered and intermixed, and they have islands in British districts and *vice versa*, a natural result of their historic origin and development.

Phul was the sixth in descent from Baryam, a Sidhu Jat, to whom Babar gave the *Chaudhrdyat* of the wild territory to the south-west of Delhi, making him in effect a Lord of the Marches.

Tree showing relationship of the three Houses.



The century and more which elapsed between the grant and Phul's death in 1652 were filled with continual fighting with the Bhattis. Phul's second son Rama obtained from the Governor of Sirhind the *Chaudhrdyat* of the Jangal Des. When Ahmad Shah defeated the Sikhs near Barnala in 1762, Rama's son, Ala Singh, was

one of his prisoners. He was a chief of such importance that his conqueror gave him the title of Raja and the right to coin money. But Ala Singh found it prudent to join next year in the capture of Sirhind. From the division of territory which followed the separate existence of the Phulkian States begins. The manner in which they came in 1809 under British protection has already been related. The Raja of Patiala was our ally in the Gurkha War in 1814, and received the Pinjaur *tahsil*. The active loyalty displayed in 1857 was suitably rewarded by accessions of territory. The right of adoption was conferred, and special arrangements made to prevent lapse, if nevertheless the line in any state failed.

Patiala occupies five-sevenths of the Phulkian inheritance. The predominant agricultural tribe is

Area, 5412 sq. m.
Cultd area,
4515 sq. m.
Pop. 1,407,659;
40 p.c. H.
38 " S.
22 " M.
Rev.
Rs. 82,00,000
£546,666.

the Jats, over three-fourths of whom are Sikhs. The cultivated area is four-fifths of the total area. Over one-fourth of the former is irrigated, 27 p.c. from wells, and the rest from the two canals. In an area extending with breaks from Simla to the Raj put ana desert the variations of agriculture are of course extreme. The state is excellently served by railways.

Nizamats.—There are five *nizdmats* or districts, Pinjaur, Amargarh, Karmgarh, Anahadgarh, and Mohindargarh. Their united area is equivalent to that of two ordinary British districts. The Pinjaur *nizdmat* with headquarters at Rajpura covers only 825 square miles. Of its four *tahsils* Pinjaur contains the submontane and hill tract, part of the latter being quite close to Simla. The other three *tahsils* Rajpura, Bannur, and Ghanaur are in the Powadh. The Amargarh *nizdmat* with an area of 855 square miles comprises the three *tahsils* of Fatehgarh, Sahibgarh, and Amargarh. The first two

are rich and fertile well tracts. Amargarh is in the Jangal Des to the south-west of Sahibgarh. It receives irrigation from the Kotla branch of the Sirhind Canal. The Karmgarh *nizdmat* with an area of 1835 square miles contains the four *tahsils* of Patiala, Bhawanigarh, Sunam, and Nirwana. The headquarters are at Bhawanigarh. The first three are partly in the Powadh, and partly in the Jangal Des. Nirwana is in the Bangar. There is much irrigation from the Sirhind and Western Jamna Canals. The Anahadgarh *nizdmat* lies wholly in the Jangal Des. It has an area of 1836 square miles, and is divided into three *tahsils*, Anahadgarh, Bhikhi, and Govindgarh. The headquarters are at Barnala or Anahadgarh. The Mohindarpur *nizdmat* lies far away to the south on the borders of Jaipur and Alwar (see map on page 226). Its area is only 576 miles and it has two *tahsils*, Mohindargarh or Kanaud and Narnaul. Kanaud is the headquarters.

The history down to 1763 has already been related. Raja Ala Singh died in 1765 and was succeeded by his grandson Amar Singh (1765-1781), who was occupied in continual warfare with his brother and his neighbours, as became a Sikh chieftain of those days. His son, Sahib Singh (1781-1813), came under British protection in 1809. Karm Singh (1813-1845), his successor, was our ally in the Gurkha War. Maharaja Narindar Singh, K.C.S.I. (1845-1862), was a wise and brave man, who gave manful and most important help in 1857. His son, Maharaja Mohindar Singh (1862-1876), succeeded at the age of ten and died 14 years later. His eldest son, Maharaja Rajindar Singh (1876-1900), was only four when he succeeded and died at the age of 28. Another long minority, that of the present Maharaja Bhupindar Singh, only came to an end a few years ago. In the last fifty years Patiala has in consequence of three minorities been governed, and as a rule successfully governed, for

long periods by Councils of Regency. The State in 1879 sent a contingent of 1100 men to the Afghan War. It maintains an Imperial Service Force consisting of two fine regiments of infantry and one of cavalry. Maharaja Rajindar Singh went with one of these regiments to the Tirah Expedition.

Jind.—A third of the population of Jind consists of Hindu and Sikh Jats. There are two *nizdmats*, Sangriir and Jind, the latter divided into the *tahsils* of Jind and Dadri (map on page 226). The Sangriir villages are interspersed among those of the other Phulkian States, and form a part of the Jangal Des.

Area, 1259 sq. m.
Cultd area,
1172 sq. m.
Pop. 248,887;
78 p.c. H. and J.¹
14 " M.
8 " S.
Rev.
Rs. 19,00,000
=£126,666.

Jind is in the Bangar, and Dadri, separated from Jind by the Rohtak district, is partly in Hariana and partly in the sandy Rajputana desert. The rainfall varies from 17 inches at Sangriir to ten inches at Dadri. Sangriir is irrigated by the Sirhind, and Jind by the Western Jamna, Canal. Dadri is a dry sandy tract, in which the Autumn millets are the chief crop. The revenue in 1911-12 was 19 *lakhs* (£126,700). For imperial service Jind keeps up a fine battalion of infantry 600 strong. The real founder of the state was Gajpaf Singh, who was a chief of great vigour. He conquered Jind and in 1774 deprived his relative, the chief of Nabha, of Sangriir. He died in 1789. His successor, Raja Bhag Singh, was a good ally of the British Government. He died after a long and successful career in 1819. His son, Fateh Singh, only survived him by three years. Sangat Singh succeeded to troublous times and died childless in 1834. His second cousin, Raja Sariip Singh, was only allowed to inherit the territory acquired by Gajpat Singh, from whom he derived his claim. But the gallant and valuable services rendered by Raja Sariip

¹ J. = Jain.

Singh in 1857 enabled him to enlarge his State by the grant of the Dadri territory and of thirteen villages near Sangnir. He died in 1864. His son Raghubir Singh (1864-1887) was a vigorous and successful ruler. He gave loyal help in the Kiika outbreak and in the Second Afghan War. His grandson, the present Maharaja Ranbir Singh, K.C.S.L, was only eight when he succeeded, and Jind was managed by a Council of Regency for a number of years, Full powers were given to the chief in 1899.



Fig. 117. Maharaja of Jind.

Nabha consists of twelve patches of territory in the north scattered among the possessions of Patiala, Jind, and Faridkot, and two other patches in the extreme south on the border of Gurgaon. The northern section of the state is divided into the eastern *nizdmat* of Amloh in the Powadh and the western *nizdmat* of Phul in the Jangal Des. Both now receive irrigation from the Sirhind Canal. The Bawal *nizdmat* is part of the arid Rajputana desert. Jats, who are mostly Sikhs, constitute 30 p.c. of the population.

The State is well served by railways, Nabha itself being on the Rajpura-Bhatinda line. The Maharaja maintains a battalion of infantry for imperial service. Hamir Singh, one of the chiefs who joined in the capture of Sirhind, may be considered the first Raja. He died in 1783 and was succeeded by his young son, Jaswant Singh. When he grew to manhood Jaswant Singh proved a very capable chief and succeeded in aggrandising his State, which he ruled for 57 years. His son, Deoindar

Area, 928 sq. m.
Cultd area,
806 sq. m.
Pop. 248,887;
51 p.c. H. and J.
31 „ S.
18 „ M.
Rev.
Rs. 17,00,000
= £113,300.

Singh (1840-47), was deposed, as he was considered to have failed to support the British Government when the Khalsa army crossed the Sutlej in 1845. A fourth of the Nabha territory was confiscated. Bharpur Singh, who became chief in 1857, did excellent service at that critical time, and the Bawal *nizdmat* was his reward. He was succeeded by his brother, Bhagwan Singh, in 1863. With Bhagwan



Fig. 118. Mahārāja Sir Hira Singh.

Singh the line died out in 1871, but under the provisions of the *sanad* granted after the Mutiny a successor was selected from among the Badrukhan chiefs in the person of the late Maharaja Sir Hira Singh. No choice could have been more happy. Hira Singh for 40 years ruled his State on old fashioned lines with much success. Those who had the privilege of his friendship will not soon forget the

alert figure wasted latterly by disease, the gallant bearing, or the obstinate will of a Sikh chieftain of a type now departed. His son, Maharaja Ripudaman Singh, succeeded in 1911.

2. Other Sikh States

Kapiirthala.—The main part consists of a strip of territory mostly in the valley of the Bias, and interposed between that river and Jal~andhar. This is divided into the four *tahsils* of Bholath, Dhilwan, Kapiirthala, and Sul~tanpur. There is a small island of territory in Hoshyarpur, and a much larger one, the Phagwara *tahsil*, projecting southwards from

Area, 630 sq. m.
Cultd area,
424 sq. m.
Pop. 268,163.
Rev.
Rs. 14,00,000
= £93,333.
exclusive of
Rs. 13,00,000 .
= £86,666
derived from the
Oudh estates.

the border of that district into Jalandhar. Two-thirds of the area is cultivated and the proportion of high-class crops is large. The chief agricultural tribes are the Muhammadan Arains and the Jats, most of whom are Sikhs.

The real founder of the Kapiirthala house was Sardar Jassa Singh Ahluwalia, who in 1763, when Sirhind fell, was the leading Sikh chief in the Panjab. He captured Kapiirthala in 1771 and made it his headquarters, and died in 1783. A distant relative, Bagh Singh, succeeded. His successor, Fateh Singh, was a sworn brother of Ranjit Singh, with whom he exchanged turbans. But an alliance between the weak and the strong is not free from fears, and in 1826 Fateh Singh, who had large possessions south of the Sutlej, fled thither and asked the protection of the British Government. He returned however to Kapurthala in 1827, and the Maharaja never pushed matters with Fateh Singh to extremities. The latter died in 1836. His successor, Nihal Singh, was a timid man, and his failure to support the British in 1845 led to the loss of his Cis-Sutlej estates. In 1849 he took the English side and was given the title of Raja. Randhir Singh succeeded in 1852. His conspicuous services in the Mutiny were rewarded with the grant of estates in Oudh. The present Maharaja, Sir Jagatjit Singh Bahadur, G.C.S.I., is a grandson of Randhir Singh. He was a young child when he succeeded in 1877. The State maintains a battalion of infantry for imperial service.



Fig. 119. Maharaja Sir Jagatjit Singh Bahadur, G.C.S.I.

Faridkot is a small wedge of territory which almost divides the Ferozepore district in two. The population is composed of Sikhs 42½, Hindus and Jains 29, and Musalmans 28½ p.c. Sikh Jats are the strongest tribe. The country is flat. In the west it is very sandy, but in the east

Area, 642 sq. m.
Pop. 130,925.
Rev.
Rs. 11,50,000
= 476,666.



Fig. 120. Raja Brijindar Singh

the soil is firmer and is irrigated in part by the Sirhind Canal. The Chief, like the Phulkians, is a Sidhu Barar Jat, and, though not a descendant of Phul, unites his line with the Phulkians further back. The present Raja, Brijindar Singh, is 17 years of age, and the State is managed by a Council of Regency.

Kalsia consists of a number of patches of territory in Ambala and an enclave in Ferozepore known as Chirak. The founder of the State was one of the Jats from the Panjab, who swept over Ambala after the capture of Sirhind in 1763: and carved out petty principalities, of which Kalsia is the only survivor (page 180). The capital is Chachrauli, eight or nine miles north-west of Jagadhri. The present Chief, Sardar Ravi Sher Singh, is a minor.

Area, 168 sq. m.
Pop- 55,915.
Rev.
Rs. 221,000
= £14,733-

3. *The Muhammadan States*

Bahawalpur is by far the largest of the Panjab States.

But the greater part of it is at present desert, and the population, except in the river tract, is very sparse. Bahawalpur stretches from Ferozepore on the north to the Sindh border. It has a river frontage

Area,
15,917 sq. m.
Cultd area,
1853 sq. m.
Pop. 780,641;
84 p.c. M.
Rev.
Rs. 35,00,000
= £233,333-

exceeding 300 miles on the Sutlej, Panjnad, and Indus. The cultivated area in 1903-4 was 1451 square miles, and of this 83 p.c. was irrigated and 10 p.c. flooded. The rainfall is only five inches and the climate is very hot. South and east of the rivers is a tract of low land known as the "Sindh," which



Fig. 121. Nawab Sadik Muhammad Khan.

widens out to the south. It is partly flooded and partly irrigated by inundation canals with the help of wells. Palm groves are a conspicuous feature in the Sindh. Behind it is a great stretch of strong loam or "*pat*," narrow in the south, but widening out in the north. It is bounded on the south-east by a wide depression

known as the Hakra, probably at one time the bed of the Sutlej. At present little cultivation is possible in the *pat*, but there is some hope that a canal taking out on the right bank of the Sutlej in Ferozepore may bring the water of that river back to it. South of the Hakra is a huge tract of sand and sand dunes, known as the Rohf or Cholistan, which is part of the Rajputana desert. There are three *nizdmats*, Minchinabad in the north, Bahawalpur in the middle, and Khanpur in the south. The capital, BaMwalpur, is close to the bridge at Adamwahan by which the N.W. Railway crosses the Sutlej. The ruling family belongs to the Abbasi Daudpotra clan, and came originally from Sindh. Sadik Muhammad KMn, who received the title of Nawab from Nadir Shah, when he invaded the Derajat in 1739, may be considered the real founder of the State. The Nawab Muhummad Bahawal Khan III, threatened with invasion by Maharaja Ranjit Singh, made a treaty with the British Government in 1833. He was our faithful ally in the first Afghan War, and gave valuable help against Diwan Mulraj in 1848. The next three reigns extending from 1852 to 1866 were brief and troubled. Nawab Sadik Muhummad Khan IV, who succeeded in 1866, was a young child, and for the next thirteen years the State was managed by Captain Minchin and Captain L. H. Grey as Superintendents. The young Nawab was installed in 1879, and henceforth ruled with the help of a Council. In the Afghan War of 1879-1880 Bahawalpur did very useful service. The Nawab died in 1899. A short minority followed during which Colonel L. H. Grey again became Superintendent. The young Nawab, Muhammad Bahawal Khan V, had but a brief reign. He was succeeded by the present Chief, Nawab Sadik Muhummad Khan V, a child of eight or nine years. The State is managed by a Council aided by the advice of the

political Agent. From 1903 to 1913, the Agent for the Phulkian States was in charge, but a separate Agent has recently been appointed for Bahawalpur and Faridkot. An efficient camel corps is maintained for imperial service.

Malerkotla consists of a strip of territory to the south of the Ludhiana district. The capital is connected with Ludhiana by railway. The Nawab keeps up a company of Sappers and Miners for imperial service. He is an Afghan, and his ancestor held a position of trust under the Moghal Empire, and became independent on its decline. The independence of his successor was menaced by Maharaja Ran jit Singh when Malerkotla came under British protection in 1809.

Area, 167 sq. m.
Pop. 7X.M4.
Rev.
Rs. 900,000
= £60,000.

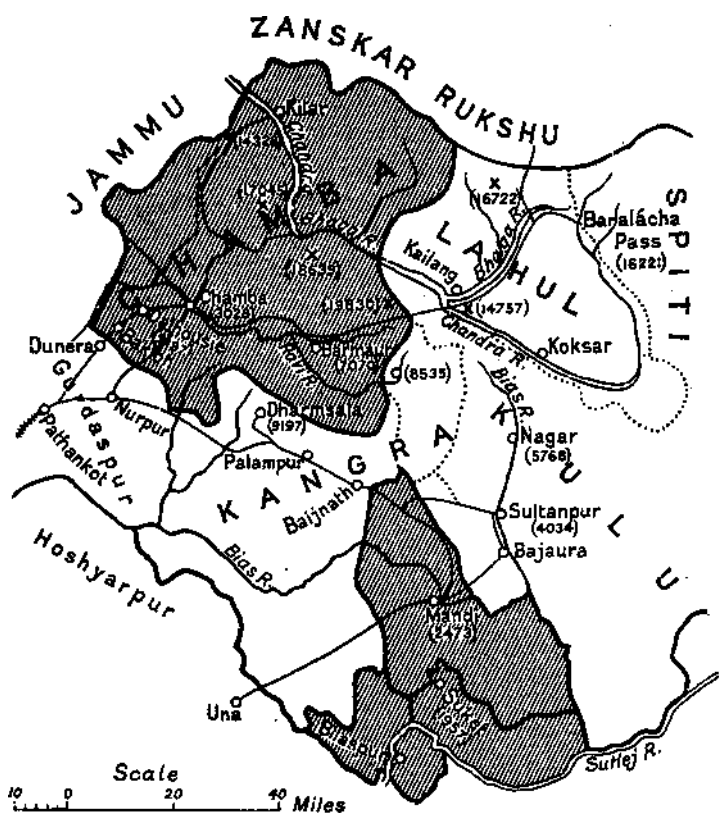
Pataudi, Dujana, and Loharu.—The three little Muhammadan States of Loharu, Dujana, and Pataudi are relics of the policy which in the opening years of the nineteenth century sought rigorously to limit our responsibilities to the west of the Jamna. Together they have an area of 275 square miles, a population of 59,987 persons, and a revenue of Rs. 269,500 (£18,000). The Chief of Loharu, Nawab Amir ud din Ahmad Khan, K.C.I.E., is a man of distinction.

4. *Hindu Hill States*

Mandi is a tract of mountains and valleys drained by the Bias. With Suket, with which for many generations it formed one kingdom, it is a wedge thrust up from the Sutlej between Kangra and Kulu. Three-fifths of the area is made up of forests and grazing lands. The *deodar* and blue pine forests on the Kulu border are valuable. At Guma and Drang an impure salt, fit for cattle, is extracted from shallow cuttings. A considerable part of the revenue is derived from the price and duty. The

Area, 1200 sq.m.
Pop. 181,110.
Rev.
Rs. 500,000
= £33,333.

chiefs are Chandarbansi Rajputs. The direct line came to an end in 1912 with the death of Bhawani Sen, but to prevent lapse the British Government has chosen as



Native States *^flgt*

Fig. 122.

successor a distant relative, Jogindar Singh, who is still a child.

Suket lies between Mandi and the Sutlej. Its Raja, Ugar Sen, like his distant relative, the Raja of Mandi, came under British protection in 1846. His great-grandson, Raja Bhim Sen, is the present chief.

Area, 420 sq. m.
Pop. 54,928.
Rev.
Rs. 200,000
£13,333-

Sirmtir (Nahan) lies to the north of the Ambala district, and occupies the greater part of the catchment area of the Giri, a tributary of the Jamna. It is for the most part a mountain tract, the Chor to the north of the Giri rising to a height of 11,982 feet. The capital, Nahan (3207 feet), near the southern border is in the Siwalik range. In the south-east of the State is the rich valley known as the Kiarda Dun, reclaimed and colonized by

Area, 1198 sq. m.
Pop. 138,520.
Rev.
Rs. 600,000
= £40,000.



Fig. 123. The late Raja Surindar Bikram Parkash, K.C.S.I., of Sirmur.

Raja Shamsher Parkash. There are valuable *deodar* and *sal* forests. A "good road connects Nihan with Barara on the N.W. Railway. In 1815 the British Government having driven out the Gurkhas put Fateh Parkash on the throne of his ancestors. His troops fought on the English side in the first Sikh War. His successors, Raja Sir Shamsher Parkash, G.C.S.I. (1856-98), and Raja Sir Surindar Bikram Parkash, K.C.S.I. (1898-1911), managed their State with conspicuous success. The present Raja, Amar Parkash, is 25 years of age. In the second Afghan War in 1880, Sirmuir sent a contingent to the frontier, and the Sappers and Miners, which it keeps up for imperial service, accompanied the Tirah Expedition of 1897.

Chamba lies to the N. of Kangra from which it is divided by the Dhauladhar (map, p. 284).
Area, 3216 sq. m.
 Pop. 135,989.
 Rev. 4 lakhs
 = £26,700. The southern and northern parts of the State are occupied respectively by the basins of the Ravi and the Chandrabhaga or Chenab. Chamba is a region of lofty mountains with some fertile valleys in the south and west. Only about one-nineteenth of the area is cultivated. The snowy range of the Mid-Himalaya separates the Ravi valley from that of the Chandrabhaga, and the great Zanskar chain with its outliers occupies the territory beyond the Chenab, where the rainfall is extremely small and Tibetan conditions prevail. The State contains fine forests and excellent sport is to be got in its mountains. There are five *wazarats* or districts, Brahmaur or Barmaur, Chamba, Bhattoyat, Chaura, and Pangti.

The authentic history of this Siirajbansf Rajput principality goes back to the seventh century. It came into the British sphere in 1846. During part of the reign of Raja Sham Singh (1873-1904), the present Raja, Sir Bhure Singh, K.C.S.I., C.L.E., administered the State as

Wazir, filling a difficult position with loyalty and honour. He is a Rajput gentleman of the best type. The Raja



Fig. 124. Raja Sir Bhure Singh, K.C.S.I., C.L.E.

owns the land of the State, but the people have a permanent tenant right in cultivated land.

Simla Hill States.—The Deputy Commissioner of Simla is political officer with the title of Superintendent of nineteen, or, including the tributaries of Bashahr, Keonthal, and Jubbal, of 28 states with a total area of 6355 square miles, a population of 410,453, and revenues amounting to a little over ten *lakhs* (£66,000). The States vary in size from the patch of four square miles ruled by the Thakur of Bija to the 3881 square miles included in Bashahr. Only four other States have areas exceeding 125 square miles, namely, Bilaspur (448), Keonthal (359), Jubbal (320), and Hindur or Nalagarh (256). Excluding feudatories the revenues vary from Rs. 903 (or a little over £1 a week) in Mangal to Rs. 190,000

(£12,666) in Bilaspur. The chiefs are all Rajputs, who came under our protection at the close of the Gurkha War:

The watershed of the Sutlej and Jamna runs through the tract. The range which forms the watershed of the Sutlej and the Jamna starts from the Shinka Pass on the south border of Bashahr and passes over Hattu and Simla. In Bashahr it divides the catchment areas of the Rupin and Pabar rivers, tributaries of the Tons and therefore of the Jamna, from those of the Baspa and the Nogli, which are affluents of the Sutlej. West of Bashahr the chief tributary of the Jamna is the Giri and of the Sutlej the Gambhar, which rises near Kasauli. In the east Bashahr has a large area north of the Sutlej drained by its tributary the Spiti and smaller streams. In the centre the Sutlej is the northern boundary of the Simla Hill States. In the west Bilaspur extends across that river. The east of Bashahr is entirely in the Sutlej basin.

Bilaspur.—This is true also of Bilaspur or Kahlur (map,

Area, 448 sq. m.
Pop. 93,107.
Rev. Rs. 190,000
£12,666.

p. 284), which has territory on both banks of the river. The capital, Bilaspur, is on the left bank only 1455 feet above sea level. The present⁴Raja Bijie Chand, C.S.I., succeeded in 1889.

Bashahr.—The chain which forms the watershed of the Sutlej and Jamna rises from about

Area, 3881 sq.m.
Pop. 93,203.
Rev. Rs. 95,000
=£6233.

12,000 feet at Hattu in the west to nearly 20,000 feet on the Tibet border. Two

peaks in the chain exceed 30,000 feet. Further north Raldang to the east of Chini is 21,250 feet high, and in the north-east on the Tibet border there are two giants about 1000 feet higher. Generally speaking the Sutlej runs in a deep gorge but at Chini and Sarahan the valley widens out. The main valley of the Pabar is not so narrow as that of the Sutlej, while the side valleys

descend in easy slopes to the river beds. The Baspa has a course of 35 miles. In the last ten miles it falls 2000 feet and is hemmed in by steep mountains. Above this gorge the Baspa valley is four or five miles wide and consists of a succession of plateaux rising one above the other from the river's banks. Bashahr is divided into

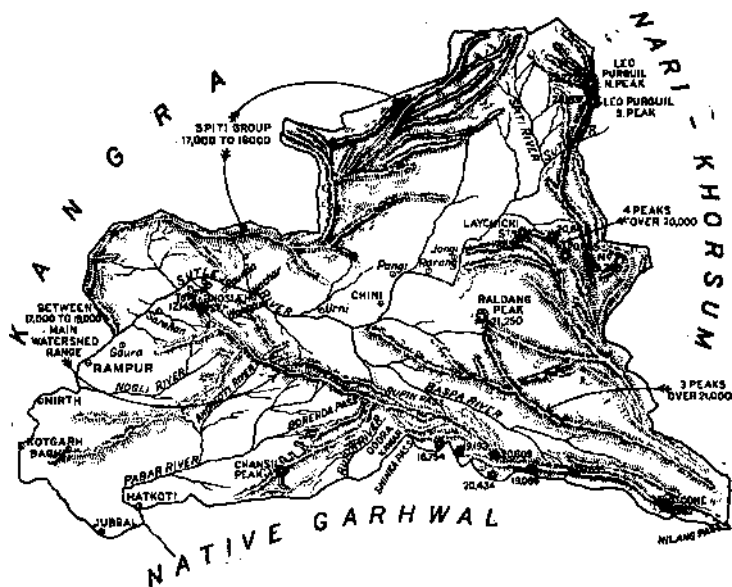


Fig. 125. Bashahr.

two parts, Bashahr proper and Kunawar. The latter occupies the Sutlej valley in the north-east of the State. It covers an area of about 1730 square miles and is very sparsely peopled. In the north of Kunawar the predominant racial type is Mongoloid and the religion is Buddhism. The capital of Bashahr, Rampur, on the left bank of the Sutlej is at an elevation of 3300 feet. The Gurkhas never succeeded in conquering Kunawar.

They occupied Bashahr, but in 1815 the British Government restored the authority of the Raja. The present chief, Shamsher Singh, is an old man, who succeeded as long ago as 1850. He is incapable of managing the State and an English officer is at present in charge.

CHAPTER XXVII

THE NORTH WEST FRONTIER PROVINCE

I. *Districts*

The Province. — The N. W. F. Province consists of five British districts, Dera Ismail Khan, Bannu, Kohat, Peshawar, and Hazara with a total area of 13,193 square miles, of which rather less than one-third is cultivated. Of the cultivated area 70 p.c. depends solely on the rainfall. In addition the Chief Commissioner as Agent to the Governor General controls beyond the administrative boundary territory occupied by independent tribes, which covers approximately an area of 25,500 square miles. In 1911 the population of British districts was 2,196,933 and that of tribal territory is estimated to exceed 1,600,000. In the districts 93 persons in every hundred profess the creed of Islam and over 38 p.c. are Pathans.

Dera Ismail Khan lies to the north of Dera Ghazi

Area. 3780 sq. m
Cultd area,
851 sq. m.
Pop. 256,120.
Land Rev.
Rs. 306,340
= £20,416.

Khan and is very similar to it in its physical features. It is divided into the three *tahsils* of Tank, Dera Ismail Khan, and Kulachi. It has a long river frontage on the west, and is bounded on the east by the Suliman Range. The Kachchhi of Dera Ismail Khan corresponds to the Sindh of Dera Ghazi Khan, but is much narrower and is not served by inundation canals, except in the extreme north, where the Paharpur

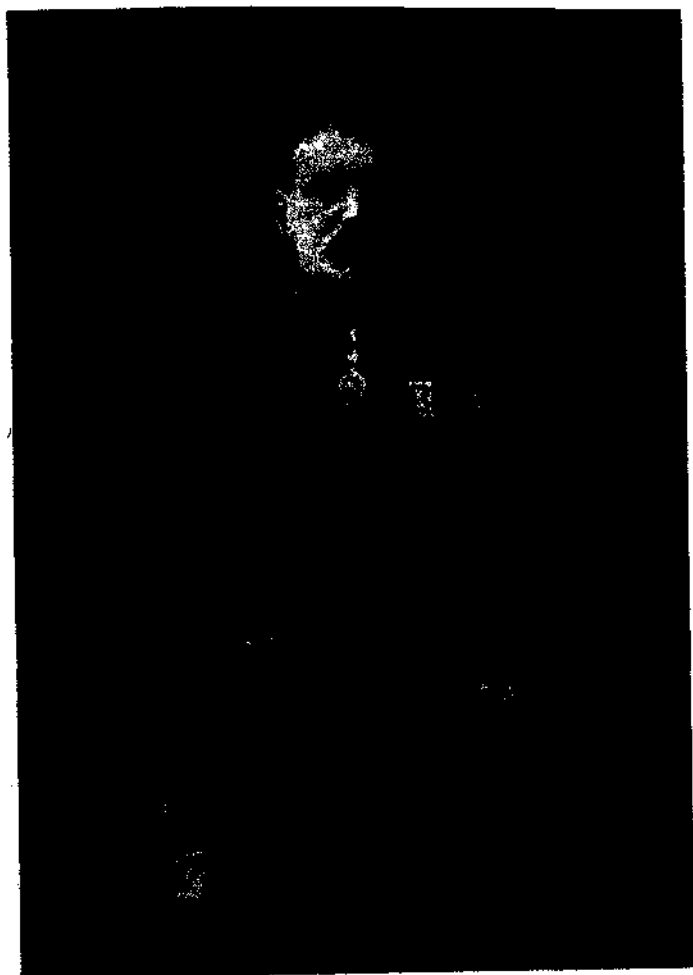


Fig. 126. Sir Harold Deane.



Fig. 127.

Canal has recently been dug. It depends on floods and wells. The Daman or "Skirt" of the hills is like the

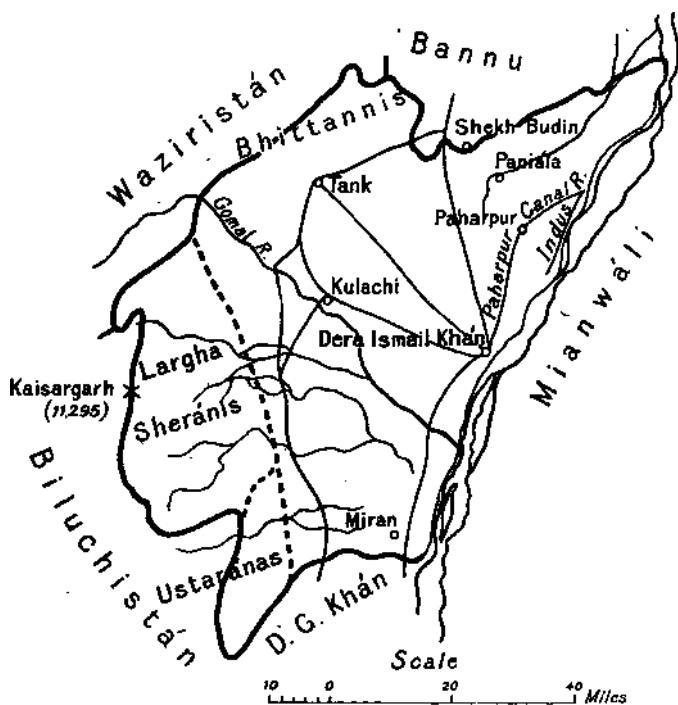


Fig. 128. Map of Dera Ismail Khan with trans-border territory of Largha Sheranis and Ustaranas.

Pachadh of Dera Gliazi Khan a broad expanse of strong clayey loam or *pat* seamed by torrents and cultivated by means of dams and embanked fields. The climate is intensely hot in summer, and the average rainfall only amounts to ten inches. Between one-fourth and one-fifth of the area is cultivated. The Pachadh is a camel-breeding tract.

Pathctns predominate in the Daman and Jats in the Kachchhf. The Bhattannfs in the north of the district

are an interesting little tribe. The hill section lies outside our administrative border, but like the Largha Sheranis in the south are under the political control of the Deputy Commissioner. A good metalled road, on which there is a *tonga* service, runs northwards from Dera Ismail Khan to Bannu.

Bannu.—The small Bannu district occupies a basin surrounded by hills and drained by the Kurram and its affluent, the Tochi. It is cut off from the Indus by the Isakhel *tahsil* of Mianwali and by a horn of the Dera Ismail Khan district. Bannu is now connected with

Area. 1641 sq. m.
Cultd area,
8x8 sq. m.
Pop. 250,086.
Land Rev.
Rs. 304,004
= £20,267.

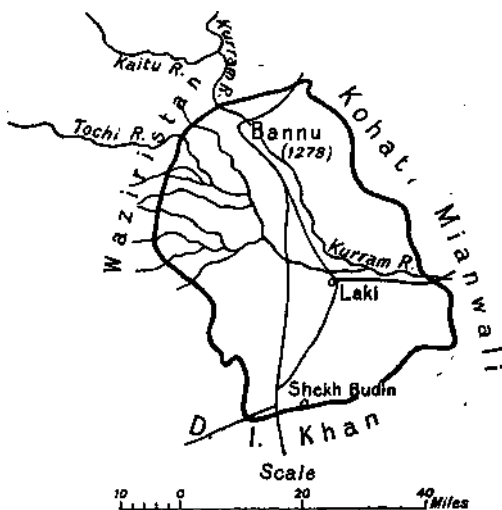


Fig. 129.

Kalabdgah in Mianwali by a narrow gauge railway. An extension of this line from Laki to Tank in the Dera Ismail Khan district has been sanctioned. There are two *tahsils*, Bannu and Marwat. The cultivated area is about one-half of the total area. About 30 p.c. of the cultivation

is protected by irrigation from small canals taking out of the streams. Most of the irrigation is in the Bannu *tahsil*. The greater part of Marwat is a dry sandy tract yielding in favourable seasons large crops of gram. But the harvests on unirrigated land are precarious, for the annual rainfall is only about 12 inches. The irrigated land in Bannu is heavily manured and is often double-cropped. Wheat accounts for nearly half of the whole crops of the district. The Marwats are a frank manly race of good physique. The Banmichfs are hard-working, but centuries of plodding toil on a wet soil has spoiled their bodily development, and had its share in imparting to their character qualities the reverse of admirable. The Deputy Commissioner has also political charge of some 17,884 tribesmen living across the border. There are good metalled roads to Dera Ismail Khan and Kohat, and also one on the Tochf route.

Kohat is a large district, but most of it is unfit for tillage and only one-sixth is actually cultivated. The chief crops are wheat, 44, and *bajra*, 26 p.c. The district stretches east and west for 100 miles from Khushalgarh on the Indus to Thal at the mouth of the Kurram valley. The two places are now connected by a railway which passes through the district headquarters at Kohat close to the northern border. There are three *tahsils*, Kohat, Hangu, and Teri, the last a wild tract of bare hills and ravines occupying the south of the district and covering more than half its area. Two small streams, the Kohat Toi and the Teri Toi, drain into the Indus. The rainfall is fair, but very capricious. The cold weather lasts long and the chill winds that blow during part of it are very trying. The chief tribes are the Bangash Pathans of Hangu and the Khattak Pathans of Teri. The Khan of Teri is head of the Khattaks, a manly race

Area, 2973 sq. m.
Cultd area,
512 sq. m.
Pop. 222,690.
Land Rev.
Rs. 275,462
= £18,364.

which sends many soldiers to our army. He enjoys the revenue of the *tahsil* subject to a quit rent of Rs. 20,000.

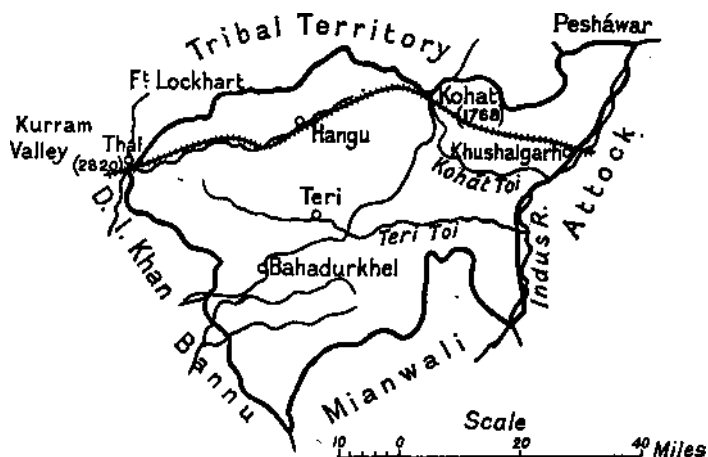


Fig. 130.

Hangu contains in Upper and Lower Miranzai the most fertile land in the district, but the culturable area of the *tahsil* is small and only one-tenth of it is under the plough. Perennial streams run through the Miranzai valleys, and the neighbouring hills support large flocks of sheep and goats. Kohat contains a number of salt quarries, the most important being at Bahadur Khel near the Bannu border. The Thal subdivision consisting of the Hangu *tahsil* is in charge of an Assistant Commissioner who manages our political relations with trans-frontier tribes living west of Fort Lockhart on the Samana Range. The Deputy Commissioner is in direct charge of the Pass Afridis and the Jowakfs and Orakzais in the neighbourhood of Kohat. He and his Assistant between them look after our relations with 144,000 trans-border Pathans. The Samana Rifles, one of the useful irregular

corps which keep the peace of the Borderland, have their headquarters at Hangu.

Peshawar is a large basin encircled by hills. The gorge of the Indus separates it from Attock and Hazara. The basin is drained by the Kabul river, whose chief affluents in Peshawar are the Swat and the Bara. The district is divided into the five *tahsils* of Peshawar,

Area. 2611 sq. m.
Cultdarea,
1398 sq. m.
Pop. 805,009
Land Rev
Rs. 11,37,504
=£75,834.

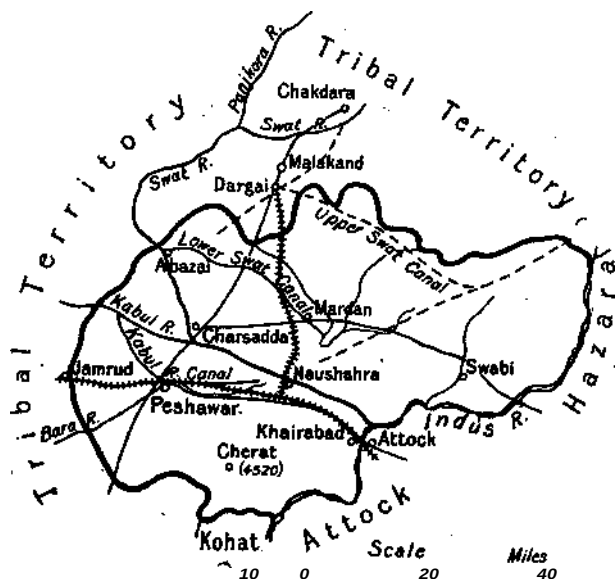


Fig. 131.

Charsadda, Naushahra, Mardan, and Swabi. The last two form the Mardan subdivision. Nearly 40 p.c. of the cultivation is protected by irrigation mainly from canals large and small. The most important are the Lower Swat, the Kabul River, and the Bara River, Canals. The irrigated area will soon be much increased by the opening of the Upper Swat Canal. The cold

weather climate is on the whole pleasant, though too severe in December and January. The three months from August to October are a very unhealthy time. The soil except in the stony lands near the hills is a fertile loam. The cold weather rainfall is good, and the Spring harvest is by far the more important of the two. Wheat is the chief crop. Half of the people are Pathans, the rest are known generically as Hindkis. The principal Hindki tribe is that of the Awans. Besides managing his own people the Deputy Commissioner has to supervise our relations with 240,000 independent tribesmen across the border. The Assistant Commissioner at Mardan, where the Corps of Guides is stationed, is in charge of our dealings with the men of Buner and the Yusafzai border. The N.W. Railway runs past the city of Peshawar to Jamrud, and there is a branch line from Naushahra to Dargai at the foot of the Malakand Pass.

Hazara is a typical montane and submontane district with a copious rainfall and a good climate. It has every kind of cultivation from narrow terraced *kalsi* fields built laboriously up steep mountain slopes to very rich lands watered by canal cuts from the Dor or Haro. Hazdra is divided into three *tahsils*, Haripur, AbbottaMd, and Mansehra. Between a fourth and a fifth of this area is culturable and cultivated. In this crowded district the words are synonymous. The above figure does not include the 204 square miles of Feudal Tanawal. The rainfall is copious and the crops generally speaking secure. The principal are maize 42 and wheat 25 p.c. Haz&ra was part of the territory made over to Raja Gulab Singh in 1846, but he handed it back in exchange for some districts near Jammu. The maintenance of British authority in Hazara in face of great odds by the Deputy Commissioner, Captain James Abbott,

Area. 2858 sq. m.
Cultd area,
673 sq. m.
Pop. 603,028.
Land Rev.
Rs. 512,897
= £34,193.

during the Second Sikh War is a bright page in Panjab history, honourable alike to himself and his faithful local

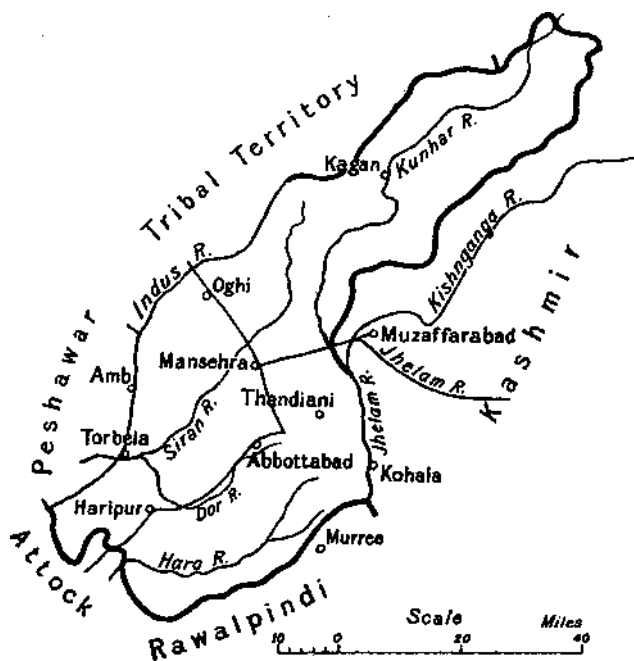


Fig. 132.

allies. The population is as mixed as the soils. Pathans are numerous, but they are split up into small tribes. The Swatts of Mansehra are the most important section. After Pathans Gujars and Awans are the chief tribes. The Gakkhars, though few in number, hold much land and a dominant position in the Khanpur tract on the Rawalpindi border. The Deputy Commissioner is also responsible for our relations with 98,000 trans-border tribesmen. The district is a wedge interposed between Kashmir on the east and Peshawar and the tribal territory north of Peshawar on the West. The Indus becomes the border

about eight miles to the north of Amb, and the district consists mainly of the areas drained by its tributaries the Unhar, Siran, Dor, and Haro. On the eastern side the Jhelam is the boundary with Kashmir from Kohala to a point below Domel, where the Kunhar meets it. Thence the Kunhar is the boundary to near Garhi Habibullah. To the south of Garhi the watershed of the Kunhar and Jhelam is close to these rivers and the country is very rough and poor. West of Garhi it is represented by the chain which separates the Kunhar and Siran Valleys and ends on the frontier at Musa ka Musalla (13,378 feet). This chain includes one peak over 17,000 feet, Mali ka Parvat, which is the highest in the district. The Kunhar rises at the top of the Kagan Glen, where it has a course of about 100 miles to Balakot. Here the glen ends, for the fall between Balakot and Garhi Habibullah is comparatively small. There is a good mule road from Garhi Habibullah to the Babusar Pass at the top of the Kagan Glen, and beyond it to Chilas. There are rest-houses, some very small, at each stage from Balakot to Chilas. The Kagan is a beautiful mountain glen. At places the narrow road looks sheer down on the river hundreds of feet below, rushing through a narrow gorge with the logs from the *deodar* forests tossing on the surface, and the sensation, it must be confessed, is not wholly pleasant. But again it passes close to some quiet pretty stretch of this same Kunhar. There are side glens, one of which opposite Naran contains the beautiful Safarmulk Lake. Near the top of the main glen the Lulusar Lake at a height of 11,167 feet and with an average depth of 150 feet is passed on the left. In the lower part of the glen much maize is grown. As one ascends almost the last crop to be seen is a coarse barley sown in June and reaped in August. Where the trees and the crops end the rich grass pastures begin. Kagan covers between one-third

and one-fourth of the whole district. The Siran flows through the beautiful Bhogarmang Glen, at the foot of which it receives from the west the drainage of the Konsh Glen. Forcing its way through the rough Tanawal hills, it leaves Feudal Tanawal and Badhnak on its right, and finally after its junction with the Dor flows round the north of the Gandgarh Range and joins the Indus below Torbela. The bare Gandgarh Hills run south from Torbela parallel with the Indus. The Dor rises in the hills to the south of Abbottabad and drains the Haripur plain. A range of rough hills divides the Dor valley from that of the Haro, which again is separated from Rawalpindi by the Khanpur Range. To the west of the Siran the Unhar flows through Agror and Feudal Tanawal, and joins the Indus a little above Amb. Irrigation cuts are taken from all these streams, and the irrigated cultivation is often of a very high character. The best cultivation of the district is in the Haripur plain and the much smaller Orash and Pakhli plains and in the Haro valley. There is much unirrigated cultivation in the first, and it is generally secure except in the dry tract in the south-west traversed by the new railway from Sarai Kila. The little Orash plain below Abbottabad is famous for its maize and the Pakhli plain for its rice.

Feudal Tanawal is a very rough hilly country between the Siran on the east and the Black Mountain and the river Indus on the west. It is the appanage of the Khans of Amb and Phulra.

North of Feudal Tanawal is Agror. In 1891 the rights of the last Khan were declared forfeit for abetment of raids by trans-bordermen.

There are fine forests in Hazara, but unfortunately the *deoddr* is confined to the Kagan Glen and the Upper Siran. Nathiagali, the summer headquarters of the Chief Commissioner, is in the Dungagalf Range. The

Serai Kala-Srinagar railway will run through Hazara. There is a good mule road from Murree to Abbottabad through the Galis.

2. Tribal Territory

Feudal Tanawal mentioned above occupies the southern corner of the tract of independent tribal territory lying between the Hazara border and the Indus. North of Tanawal on the left bank of the river a long narrow chain known as the Black Mountain rises in its highest

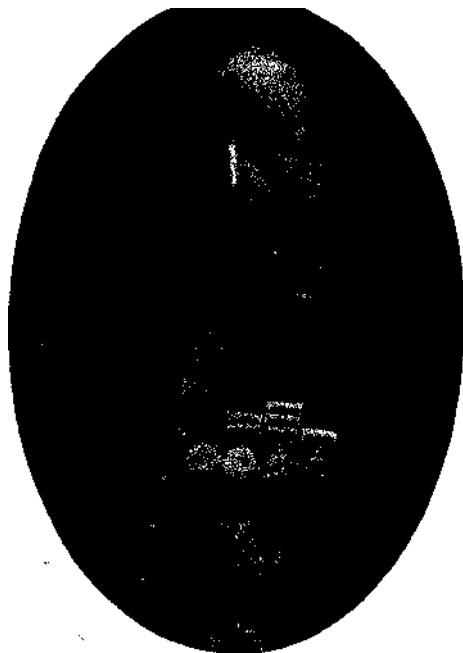


Fig 133- Sir George Roos Keppel.

peaks to a height of nearly 10,000 feet. The western slopes are occupied by Hasanzais, Akazais, and Chagarzais,

who are Pathans belonging to the great Yusufzai clan, and these three sections also own lands on the right bank

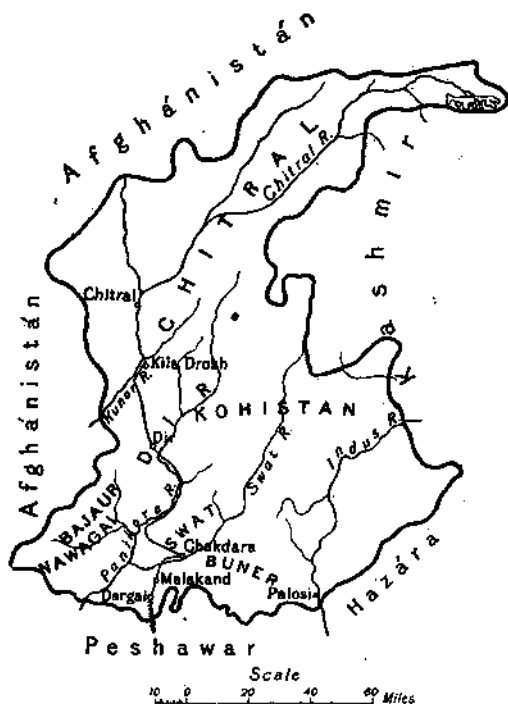


Fig- 134-

of the Indus. They have been very troublesome neighbours to the British Government. The eastern slopes of the Black Mountain are occupied by Saiyyids and Swatis, and the latter also hold the glens lying further north, the chief of which is Allai.

The mountainous tract on the Peshawar border lying to the west of Tanawal and the territory of the Black Mountain tribes formed part of the ancient Udyana, and its archaeological remains are of much interest. It is

drained by the Barandu, a tributary of the Indus. Its people are mainly Yiisafzai Pathans, the principal section being the Bunerwals. These last bear a good character for honesty and courage, but are slaves to the teachings of their *mullas*. The Yiisafzais have been bad neighbours. The origin of the trouble is of old standing, dating back to the welcome given by the tribesmen in 1824 to a band of Hindustani fanatics, whose leader was Saiyyid Ahmad Shan of Bareilly. Their headquarters, first at Sitana and afterwards at Malka, became Caves of Adullam for political refugees and escaped criminals, and their favourite pastime was the kidnapping of Hindu shopkeepers. In 1863 a strong punitive expedition under Sir Neville Chamberlain suffered heavy losses before it succeeded in occupying the Ambela Pass. The door being forced the Yiisafzais themselves destroyed Malka as a pledge of their submission. Our political relations with the Yiisafzais are managed by the Assistant Commissioner at Mar dan.

The rest of the tribal territory between the Peshawar district and the Hindu Kush is included in the Dir, Swat, and Chitral political agency. It is a region of mountains and valleys drained by the Swat, Panjkora, and Chitral or Yarkhun rivers, all three affluents of the Kabul river. Six tracts are included in the Agency.

(a) Swat.—A railway now runs from Naushahra in the Peshawar district to Dargai, which lies at the foot of the Malakand, a little beyond our administrative boundary. An old Buddhist road crosses the pass and descends on the far side into Swat. We have a military post at Chakdarra on the Swat river, and a military road passing through Dir connects Chakdarra with Kila Drosh in Chitral. Most of the Swatis, who are Yiisafzais of the Akozai section, occupy a rich valley above 70 miles in length watered by the Swat river above its junction with

the Panjkora. Rice is extensively grown, and a malarious environment has affected the physique and the character of the people. The Swatf is priest-ridden and treacherous. Even his courage has been denied, probably unjustly. Swati fanaticism has been a source of much trouble on the Peshawar border. The last serious outbreak was in 1897, when a determined, but unsuccessful, attack was made on our posts at Chakdarra and the Malakand Pass. The Swatfs are Yisafzai Pathans of the Akozai clan, and are divided into five sections, one of which is known as Ranizai.

(b) Sam Ranizai,—A small tract between the Peshawar border and the hills is occupied by the Sam Ranizais, who were formerly servants and tenants of the Ranizais, but are now independent.

(c) Utman Khel.—The country of the Utman Khels begins where the Peshawar boundary turns to the south. This tribe occupies the tract on both sides of the Swat river to the west of Swat and Sam Ranizai. On the south-west the Swat river divides the Utman Khels from the Mohmands. Their country is very barren, but a good many of them cultivate land in the Peshawar district. The Utman Khels are quite independent of the surrounding tribes and have been troublesome neighbours to ourselves.

(d) Bajaur.—Bajaur is a very mountainous tract lying to the north-west of the Utman Khel country and between it and the Durand line. It includes four valleys, through which flow the Rud river and its affluents with the exception of that known as Jandol. The valley of the last is now included in Dir.[#] The Rud, also known as the Bajaur, is a tributary of the Panjkora. The people consist mainly of Mamunds and other sections of the Tarkanri clan, which is related to the Yusafzais. They own a very nominal allegiance to the Khan of

Nawagai, who is recognised as the hereditary head of the Tarkanris. They manage their affairs in quasi-republican fashion through a council consisting of the particular party which for the time being has got the upper hand.

(e) Dir.—Dir is the mountainous country drained by the Panjkora and its tributaries, to the north of its junction with the Rud river in Bajaur. It is separated from Chitral by the Uchiri Range, which forms the watershed of the Panjkora and Kunar rivers. The military road to Kila Drosh crosses this chain by the Lowari Pass at a height of 10,200 feet. The people of Dir are mostly Yusafzais, relations of the Swatis, whom they much resemble in character. They pay one-tenth of their produce to their overlord, the Khan of Dir, when he is strong enough to take it. The higher parts of the country have a good climate and contain fine *deodar* forests. The Khan derives much of his income from the export of timber, which is floated down the Panjkora and Swat rivers.

(/) Chitral.—The Pathan country ends at the Lowari Pass. Beyond, right up to the main axis of the Hindu Kush, is Chitral. It comprises the basin of the Yarkhun or Chitral river from its distant source in the Shawar Shur glacier to Arnawai, where it receives from the west the waters of the Bashgul, and is thenceforth known as the Kunar. Its western boundary is the Durand line, which follows a lofty chain sometimes called the Kafiristan range. Another great spur of the Hindu Kush known as the Shandur range divides Chitral on the east from the basin of the Yasin river and the territories included in the Gilgit Agency (see Chapter XXVIII). Chitral is a fine country with a few fertile valleys, good forests below 11,000 feet, and splendid, if desolate, mountains in the higher ranges. The Chitralis are a quiet pleasure-loving people, fond of children and of dancing, hawking, and

polo. They are no cowards and no fanatics, but have little regard for truth or good faith. The common language is Khowir (see page 112). The chief, known as the Mehtar, has his headquarters at Chitral, a large village on the river of the same name. It is dominated at a distance by the great snow peak of Tirach Mir (see page 22). The British garrison is stationed at Kila Drosh on the river bank about halfway between Chitral and the Lowari Pass¹.

Mohmands and Mallagoris.—South of the Utman Khel

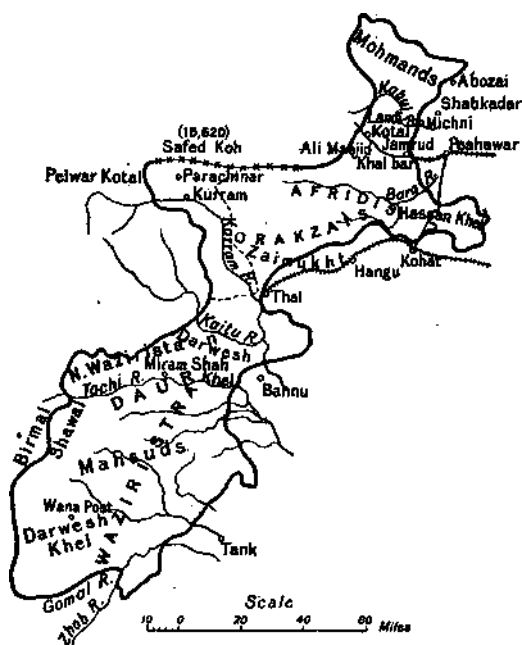


Fig. 135.

country and north of the Khaibar are the rugged and barren hills held by that part of the Mohmand tribe

¹ For recent history see page 196.

which lives inside the Durand line. The clan can muster about 20,000 fighting men and is as convenient a neighbour as a nest of hornets. The southern edge of the tract, where it abuts on the Khaibar, is held by the little Mallagori tribe, which is independent of the Mohmands. Their country is important strategically because a route passes through it by which the Khaibar can be outflanked. It is included in the charge of the Political Agent for the Khaibar.

Afridis.—The pass and the tract lying to the south of it including the Bazar valley and part of Tirah are the home of the six sections of the Pass Afridis, the most important being the Zakha Khel, whose winter home is in the Khaibar and the Bazar valley, a barren glen hemmed in by barren hills, the entrance to which is not far from Ali Masjid. Its elevation is 3000 to 4000 feet. The valleys in Tirah proper, where the Pass Afridis for the most part spend the summer, are two or three thousand feet higher. When the snow melts there is excellent pasturage. The climate is pleasant in summer, but bitterly cold in winter. The Bara river with its affluents drains the glens of Tirah. The Aka Khel Afridis, who have no share in the Pass allowances, own a good deal of land in the lower Bara valley and winter in the adjoining hills. The fighting strength of the above seven sections may be put at 21,000. When they have been able to unite they have shown themselves formidable enemies, for they are a strong and manly race, and they inhabit a very difficult country¹. But the Afridi clan is torn by dissensions. Blood feuds divide house from house, and the sections are constantly at feud one with another. Apart from other causes of quarrel there is the standing division into two great factions, Gar and Samil, which prevails among Afridis and Orakzais. Afridis enlist

¹ See page 196.

freely in our regiments and in the Khaibar Rifles, and have proved themselves excellent soldiers. The eighth section of the Afridis, the Adam Khel, who hold the Kohat Pass and the adjoining hills, have very little connection with



Fig. 136. Khaibar Rifles.

the rest of the clan. The Jowakis, against whom an expedition had to be sent in the cold weather of 1877-78, are a sub-section of the Adam Khel.

Orakzais, Chamkannis, and Zaimukhts.—The Orakzais, who in numbers are even stronger than the Pass and Aka Khel Afridis, occupy the south of Tirah, the Samana Range on the border of Kohat, and the valley of the Khanki river. The tribal territory extends westwards as far as

the Khurmana, a tributary of the Kurram. The Orakzais do some trade and Sikh *banias* and artizans are to be found in some of their villages. The clan is honey-combed with feuds. North-west of the Orakzais beyond the Khurmana are the Chamkannis, and on the south is a small tribe of vigorous mountaineers called Zaimukhts. One of these Zaimukhts, Sarwar Khan, nicknamed Chikai, was a notorious frontier robber, and a person of considerable importance on the border till his death in 1903.

The Kurram Valley.—The Kurram Valley, which is drained by the Kurram river and its affluents, lies to the south of the lofty Safed Koh range, and reaches from Thai in Kohat to the Peiwar Kotal on the borders of Afghan Khost. It has an area of nearly 1300 square miles and in 1911 the population was estimated at 60,941 souls. Though under British administration, it does not form a part of any British district. The people are Pathans of various clans, the predominant element being the Turis, who are Shias by religion and probably of Turkish origin. It was at their request that the valley was annexed in 1892. The political agent has his headquarters at Parachinar in Upper Kurram, which is divided from Lower Kurram by a spur of the Khost hills, through which the river has cut a passage. Such part of the Indian penal law as is suitable has been introduced, and civil rights are governed by the customary law of the Turfs. A complete record of rights in land and water has been framed, and the land revenue demand is 88,000 rupees (£5889). Upper Kurram is a wide and fertile valley set in a frame of pine-clad hills. It is not fully cultivated, but has great possibilities, especially in the matter of fruit growing. The snowfall is heavy in winter, but the summer climate is excellent. Lower Kurram is a poor and narrow glen unpleasantly hot and cold according to the season of the year.

Parachinar is connected with the railhead at Thai by a good *tonga* road.

Waziristdn.—The country of the Darwesh Khel and Mahsud Wazirs extends from the Kurram valley to the Gomal river. It is divided into the North Waziristan (2300 square miles) and the South Waziristan (2700 square miles) Agencies. North Waziristan consists of four valleys and some barren plateaux. The principal valley is that of Daur (700 square miles) drained by the Tochl. In 1894 the Dauris sought refuge from Darwesh Khel inroads by asking for British administration. In the eyes of the Darwesh Khel they are a race of clodhoppers. Their sole virtue consists in patient spade industry in the stiff rich soil of their valley, their vices are gross, and their fanaticism is extreme. The political agent's headquarters are at Miram Shah. South Waziristan is the home of the troublesome Mahsuds, who can muster 11,000 fighting men. But parts of the country, e.g. the Wana plain, are held by the Darwesh Khel. Much of South Waziristdn consists of bare hills and valleys and stony plains scored with torrents, which are dry most of the year. The streams are salt. Part of the hinterland is however a more inviting tract with grassy uplands and hills clad with oak, pine, and *deodar*. Wana, where the political agent has his headquarters, was occupied on the invitation of the Darwesh Khel in 1894.

Sherdnis.—The Sherani country stretches along the Dera Ismail Khan border from the Gomal to the Vihoa torrent. The Largha or lower part has been under direct administration since 1899, the Upper part belongs to the Biluchistan Agency.

Tribal Militias.—In the greater part of India beyond the border there is no British administration. Respect for our authority and the peace of the roads are upheld,

and raiding on British territory is restrained, by irregular forces raised from among the tribesmen. There are Hunza and Nagar levies, Chitral and Dir levies, Khaibar Rifles, Samana Rifles, and Kurram, North Waziristan, and South Waziristan militias.



Fig. 137. North Waziristan Militia and Border Post.

CHAPTER XXVIII

KASHMIR AND JAMMU

Kashmir.—Some account has already been given of the topography and scenery of the wide territory, covering an area about equal to that of the Panjab less the Ambala division, ruled by the Maharaja of Kashmir and Jammu. The population, races, languages, and religions have been referred to in Chapters ix and X.

Modern history.—Some mention has been made of the early history of Kashmir (pages 165, 166, 172, 173). Even the hard Sikh rule was a relief to a country which had felt the tyranny of the Durani governors who succeeded the Moghals. Under the latter small kingships had survived in the Jammu hills, but the Jammuwal Rajas met at Ranjit Singh's hands the same fate as the Kangra Rajas. Three cadets of the Jammu royal house, the brothers dhian Singh, Suchet Singh, and Gulab Singh, were great men at his court. In 1820 he made the last Raja of Jammu. Gulab Singh was a man fit for large designs. In 20 years he had made himself master of Bhadrawah, Kishtwar, Ladakh, and Baltistan, and held the casket which enclosed the jewel of Kashmir. He acquired the jewel itself for 75 lakhs by treaty with the British at the close of the first Sikh war.

Excluding a large but little-known and almost uninhabited* tract beyond the Muztagh and Karakoram mountains, the drainage of which is northwards into Central Asia, the country consists of the valleys of the



Fig. 138. Maharaja of Kashmir.

Chenab, Jhelam, and Indus, that of the last amounting to three-fourths of the whole. There is a trifling area to the west of Jammu, which contains the head-waters of small streams which find their way into the Ravi.

Divisions.—The following broad divisions may be recognised:

- i. Chendb Valley (a) Plain and Kandi or Low Hills.
(b), Uplands of Kishtwar and Bhadrawah.
2. Jhelam Valley (a) Vale of Kashmir with adjoining glens and hills.
(b) Gorge below Baramtila and Kishnganga Valley.



Fig. 139. Sketch Map of Chenab and Jhelam Valleys (Jammu and Kashmir).

3. Indus Valley (a) Ladakh including Zaskar and Rupshu.

(b) Baltistan.

(c) Astor and Gilgit.

Chendb Valley.—(a) *Plain and Kandi*. This tract extends from Mfrpur on the Jhelam to Kathua near the Ravi and close to the head-works of the Upper Bari Doab Canal at Madhopur. It is coterminous with the Panjab districts of Jhelam, Gujrat, Sialkot, and Gurdaspur, and comprises four of the five districts of the Jammu Province, Mirpur, Riasi, Jammu, and Jasrota, and a part of the fifth, Udhampur. The plain is moist and unhealthy. The rough country behind with a stony and thirsty red soil covered in its natural state with *garna* (*Carissa spinarum*), *sanatan* (*Dodonaea viscosa*), and *bhekar* (*Adhatoda vasica*) does not suffer in this respect. The chief crops of the Kandi are wheat, barley, and rape in the spring, and maize and *bajra* in the autumn, harvest. Behind the Kandi is a higher and better tract, including Naoshera, with wide valleys, in which maize replaces *bajra*.

(b) *Uplands*. The greater part of the Upper Chenab Valley is occupied by Kishtwar and *Jagir Bhadrawah*. The rainfall is heavy and there is copious irrigation from *kuhls* (page 142), but elevation and rapid drainage make the climate healthy. In the upper parts snow and cold winds sometimes prevent the ripening of the crops. The poppy is grown in Kishtwar and Bhadrawah. Kishtwar is a part of the Udhampur district.

Jhelam Valley.—(a) *Vale of Kashmir with adjoining glens and mountains*. This first division of the Jhelam Valley extends from the source above Vernag to B&ramiila, and embraces not only the Vale of Kashmir, over 80 miles long and from 20 to 25 miles in breadth, but the glens which drain into it and the mountains that surround

it. It therefore includes cultivation of all sorts from rich irrigated rice fields to narrow plots terraced up mountain slopes on which buckwheat and the beardless Tibetan barley are grown. The administrative divisions are the *wazarat* or district of South Kashmir and the southern



Fig. 140. Takht i Suliman in Winter.

part of North Kashmir. The central valley has an elevation of 6000 feet. It was undoubtedly once a lake bed. Shelving fan-shaped "*karewas*" spread out into it from the bases of the hills. The object of the Kashmiri is to raise as much rice as he possibly can on the alluvium of his valley and on the rich soil deposited on the banks of mountain streams. Manure and facilities for irrigation exist in abundance, and full use is made of them in the cultivation of the favourite crop. *Kangni* takes the place of rice in many fields if there is any deficiency of water. On reclaimed swamps near the Jhelam heavy

crops of maize are raised. The tillage for wheat and barley is as careless as that for rice is careful. The cultivation of saffron (*Crocus sativus*) on *karewas* is famous, but the area is now limited, as the starving people ate up the bulbs in the great famine of 1877 and recovery is slow. Saffron is used as a pigment for the sectarian marks on the forehead of the orthodox Hindu and also as a condiment. The little floating vegetable gardens on the Dal lake are a very curious feature. The "*demb*" lands on the borders of the same lake are a rich field for the market gardener's art. He fences a bit of land with willows, and deposits on it weeds and mud from the lake bed. He is of the boatman or Hanz caste, whose reputation is by no means high, and can himself convey by water his vegetables and fruits to the Srinagar market. The production of fruit in Kashmir is very large, and the extension of the railway to Srinagar should lead to much improvement in the quality and in the extent of the trade. It may also improve the prospects of sericulture.

(b) *Jhelam Gorge and Valley of Kishnganga.* The Jhelam gorge below Baramiila is narrow and the cultivation is usually terraced. The Kishnganga joins the Jhelam near Muzaffarabad. The Muzaffarabad district includes the Jhelam gorge and the lower part of the valley of the Kishnganga. The upper part is in the Uttarmachhipura *tahsil* of the district of North Kashmir.

Indus Valley.—(a) *Ladakh including Zanskar and Rupshu.* Some description of Ladakh and its scenery has already been given in Chapter 11. It may be divided into Rupshu, Zanskar, and Ladakh proper with Leh as its centre. Rupshu in the south-east is a country of great brackish lakes in no part less than 13,500 feet above sea level. At such a height cultivation must be very difficult, but a little beardless Tibetan barley is raised. The scanty population consists mainly of nomad shepherds. In

Ladakh the people are. divided into shepherds or *chatnpas*, who roam over the Alpine pastures, and Ladakhis, who

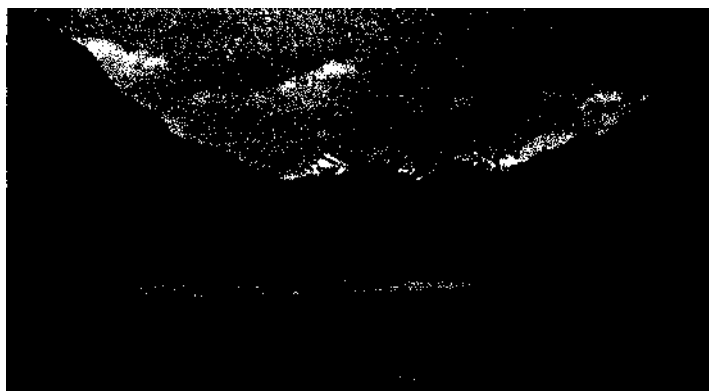


Fig. 141. Ladakh Hills.

till laboriously every available patch of culturable land in the river valleys. Though both are Buddhists they rarely intermarry. Zanskar to the N.W. of Rupshu is drained by the river of the same name, which flows northwards to join the Indus below Leh. It forms part of the Kargil *tahsil*. Zanskar is a bleak inaccessible region where the* people and cattle remain indoors for six months of the year. Its breed of ponies is famous. In Ladakh proper cultivation ranges from 9000 to 15,000 feet. The sandy soil must be manured and irrigated, and is often refreshed by top-dressings of fresh earth from the hill sides. The crops are wheat and barley, rape, lucerne, peas and beans, in spring, and buckwheat, millets, and turnips, in autumn. There is a great lack of wood for building and for fuel, and the deficiency in the latter case has to be supplied by cow-dung, cakes. Notwithstanding

their hard life the people are cheerful and fairly well off, for polyandry has prevented overcrowding.

(6) *Baltistan*. In Baltistan, which lies to the N.W. of Ladakh, they are Muhammadans and there is much more pressure on the soil. They are a cheery race and very fond of polo. To support their families the men have to work as carriers on the roads to Leh and Gilgit. They tend the cattle in the pastures, keep the irrigation channels and the walls of the terraced fields in repair, and do the ploughing. The rest of the work of cultivation is left to the women. The climate is very severe and most of the rivers are frozen in winter. On the other hand near the Indus on the Skardo plain (7250 feet) and in the Rondu gorge further west, the heat is intense in July and August. The dreary treeless stony Deosai Plains on the road to Kashmir have an elevation of 13,000 feet. The cultivation and crops are much the same as in Ladakh. Excellent fruit is grown, and there is a considerable export of apricots. Gold washing is carried on with profit.

Ladakh and Baltistan together form the Ladakh *wazdrat*, divided into the three *tahsils* of Ladakh, Kargil, and Skardo.

(c) *Astor and Gtlgit*.—Where the Gilgit road from Kashmir descends from the Burzil pass (13,500 feet) the country of Astor is reached. It is drained by the Astor river, which joins the Indus to the south of Bunji. The bridge which crosses it at Ramghat is only 3800 feet above sea level. The village of Astor itself is at a height of 7853 feet. The cultivation is of the same description as that in Baltistan. The aspect of the country is bleak till the Indus is crossed, and Gilgit (4890 feet) is reached. Here there is a fertile well-watered oasis from which on every side great mountain peaks are visible. The lands are heavily manured. Rice, maize, millet, buckwheat, cotton, wheat, barley, rape, and lucerne are grown. There



Fig. 142. Zojila. Pates (page 12).

is a second and easier road to Gilgit from India over the Babusar pass at the top of the Kagan Glen in Hazara. But the posts are sent by the Kashmir road. The Astors and Gilgitis are a simple easy-going folk, and, like the Baltis, very fond of polo. A British Political Agent is stationed at Gilgit. He is responsible to the Government of India for the administration of Hunza, Nagar, and Yasin, and of the little republics in the neighbourhood of Chilas); Hunza and Nagar lie to the north of Gilgit near the junction of the Muztagh and Hindu Kush ranges, and Yasin far to the west about the upper waters of the Gilgit river.

In Astor and Gilgit also Gulab Singh's Dogras replaced the Sikh troops. But across the Indus Gulab Singh was never strong, and after 1852 that river was his boundary. He died in 1857, having proved himself a hard and unscrupulous, but a capable and successful ruler. His son, Randhir Singh, was a better man, but a worse king. A good Hindu, tolerant, and a friend of learning, he had not the force of character to control the corrupt official class, and the people suffered much in consequence. He was a loyal ally in the Mutiny. In 1860 his forces recovered Gilgit, a conquest which for years after was a fruitful source of suffering to his Cis-Indus subjects. The present Maharaja, Sir Pratap Singh, G.C.S.I., succeeded in 1885. While he lived his brother, Raja Amar Singh, played a very important part in Kashmir affairs. From 1887 to 1905 the administration was managed by a small council, of which after 1891 the Maharaja was President and Raja Amar Singh Vice-President. It was abolished in 1905. There are now under the Maharaja a chief minister and ministers in charge of the home and revenue departments. Judicial business is controlled by the Judge of the High Court. Death sentences must be confirmed by the Maharaja. The highest executive officers are the governors

of Jammu and Kashmir, and the *Wazirs Wazdrat* of Ladakh and Gilgit. In Jammu and Kashmir each of the eight districts is in charge of a *Wazir Wazdrat*. In connection with the land revenue settlement, forests, etc., the services of British officers have been lent to the State. The Government of India is represented at Srinagar by a Resident, and a political agent at Gilgit exercises a general supervision over the *Wazir Wazdrat*.

During the reign of the present Maharaja great reforms have been effected. The construction of the Gilgit road has done away with the blood tax, which the conveyance of supplies to that remote post formerly involved. The land revenue settlement has largely substituted cash for kind payments and done away with many abuses. Official corruption and oppression have been scotched, but would speedily revive if vigilance were relaxed. The different peoples ruled by the Maharaja are easily governed if properly treated, and violent crime is rare.

Note. In the map appended to Dr Arthur Neve's *Thirty Years in Kashmir* the heights of Gasherbrum and Masherbrum (see page 21) are given respectively as 26,360 and 25,560 feet, and that of Hidden Peak, S.E. of Gasherbrum, as 26,470 feet. These with K^2 are the highest mountains round the Baltoro Glacier. Further east is the Siachen, "the greatest glacier in Asia/" which feeds the Nubra river (page 36). N.E. of the Siachen is the Teram Kangri mountain, the height of which does not probably exceed 25,000 feet. The actual height of the Nun Kun (page 12) is 23,447 feet. Dr Neve gives that of the Karakoram Pass as 18,110 feet, not 18,550 as stated on page 20.

CHAPTER XXIX

CITIES

Delhi (28.38 N., 77.13 E.).—Of imperial cities the most interesting are those which have felt the tragedies as well as enjoyed the glories of Empire. From this point of view Delhi, notwithstanding its small extent and modern foundation, may be grouped with Rome, Constantinople, and Paris. In the matter of size it is in the same class as Edinburgh. The present Delhi or Shahjahanabad is a creation of the middle of the seventeenth century, and the oldest of the Delhis in the neighbourhood goes back only to the fourth century of our era. The latter endured for six or seven centuries. It was the capital of the Tunwar and Chauhan Rajas, and takes its second name of Rai Pithora's Kila' or Fort from the last Hindu King of Delhi, the famous Prithvi Raja. The early Muhammadan kings occupied it and adorned it with splendid buildings. Firoz Shah Tughlak's city of Firozabad occupied part of the present Delhi and the country lying immediately to the south of it. The other so-called towns Siri, Tughlakabad, and Indarpat or Purana Kila' (Old Fort) were fortified royal residences round which other dwelling-houses and shops sprang up.

The visitor to Delhi will be repaid if he can devote a week to the City and the neighbourhood. It is impossible here to give any adequate account of the objects of historic and architectural interest. No visitor should be without

Mr H. C. Fanshawe's *Delhi Past and Present*, a work of great interest. The value of the text is enhanced by good maps and excellent illustrations. In the Civil Station, which lies to the north of the City and east of the Ridge, is Ludlow Castle, from the roof of which General Wilson and his Staff watched the assault on 14th September, 1857, when Delhi was retaken. Ludlow Castle is now the Delhi Club. Between it and the northern rampart of the City, a defence against the Mahrattas built by British officers fifty years earlier, grim fighting took place on that historic day when the little British and Indian force, till then rather besieged than besiegers, was at last strong enough to attack. Here are the sites of the four batteries which breached that rampart, and here are the grave of John Nicholson and the statue recently erected in his honour (page 190). The Ridge to which the little army had clung obstinately from May to September in scorching heat and drenching rain, undismayed by repeated assaults and the ravages of cholera, starts about half-a-mile to the west of the Mori bastion, at the north-west corner of the city wall, and runs north by east to Wazirabad on an old bed of the Jamna. Ascending to the Flagstaff Tower one looks down to-day on the Circuit House and the site of the principal camps at the great *darbdr* of 1911. Here was the old Cantonment and its parade ground, on which the main encampment of the British force stood in 1857. The position was strong, being defended by the ridge on the east and the Najafgarh Canal on the west. It is open to the south, where are the Savzi Mandi (Vegetable Market), now the site of factories, and the Roshanara Gardens. It was on this side that the mutineers made their most dangerous attacks. The road along the Ridge from the Flagstaff Tower passes the Chauburji Mosque and Hindu Rao's house, which was the principal target of the City batteries and was gallantly held by Major Reid

with his Sirmur Gurkhas, the Guides, and the 60th Rifles. Beyond Hindu Rao's house is one of the stone pillars of Ajoka, which Firoz Shah Tughlak transported to Delhi. Still further south is the Mutiny Memorial. As one reads the tale of the losses of the different regiments one realizes in some measure the horrors and the heroism of which the Ridge was witness.

The City.—When visiting the City from the Civil Lines it is well to follow the road, which passing the Kudsia Gardens leads straight to the Kashmir Gate, one of two places in India (the Lucknow Residency is the other) which must stir with grateful pride the heart of the most phlegmatic of Englishmen. The

road from the Gate to the Fort and the Jama Masjid is rich in memories of the Mutiny. It has on its left S. James' Church, with memorial tablets within and outside the shot-riddled globe which once surmounted its dome. Further on are the obelisk to the telegraph officers who stuck to their posts on the fatal nth of May, and on a gateway of the Old Magazine a record of the heroism of the nine devoted men, who blew it up, losing five of their number in the explosion. Passing under the railway bridge one comes out on the open space in front of Shahjahan's palace fort, which was finished about 1648 A.D. TO the beautiful buildings



In memory of the officers and soldiers, British and native, of the Delhi Field Force who were killed in action or died of wounds or disease between the 30th May and 20th September 1857.'

This monument has been erected by the comrades who lament their loss and by the Govmt: they served so well.'

Fig. 143. Delhi Mutiny Monument.

erected by his father Aurangzeb added the little Moti

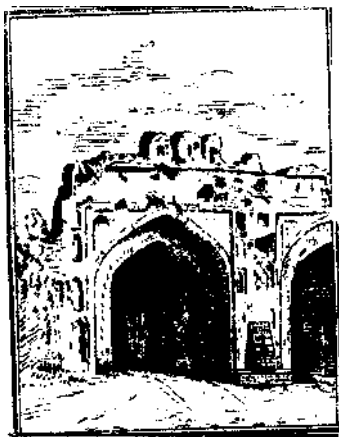


Fig. 144. Kashmir Gate.

Masjid or Pearl Mosque. But he never lived at Delhi after 1682. The palace is therefore associated with the tragedies and squalor of the decline and fall of the Moghal Empire rather than with its glories. In 1739 it was robbed of the Kohinur and the Peacock throne by Nadir Shah, in 1788 it saw the descendants of Akbar tortured and the aged Emperor blinded by the hateful Ghulam Kadir, and on 16th May, 1857 the mutineers

massacred fifty Christians captive within its walls. When viewing the public and private halls of audience, known as the Diwan i 'Am and the Diwan i Khass, it is however natural to think rather of scenes of splendour such as Bernier described when Aurangzeb sat in royal apparel on the Peacock throne with a king's ransom in the aigrette of his turban and the rope of pearls which hung from his neck. On such an occasion, the pillars of the Diwan i 'Am were hung with gold brocades and the floors covered with rich silken carpets. Half the court outside was occupied by a magnificent tent and the arcade galleries surrounding it were decked with brocades and covered with costly carpets. The marble Diwan i Khass with its lovely pillars decorated with gold and precious stones is surely the most splendid withdrawing room that a monarch ever possessed. There is nothing in the Moorish palace at Granada which can for a moment be compared with these two halls. For a description of them and of the

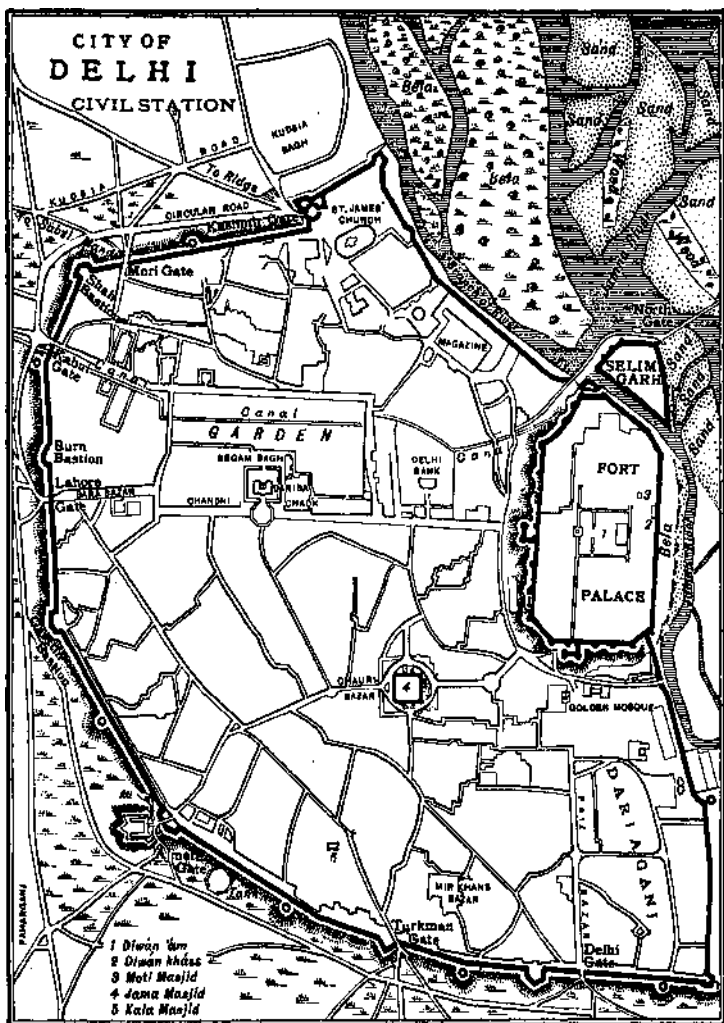


Fig. 145. Map of Delhi City.

other buildings in the Fort the reader must refer to Mr Fanshawe's book. In the Viceroyalty of Lord Curzon and since much has been done to restore their surroundings to some semblance of their former state. But the heavy British barracks occupied by the little garrison are very incongruous with the remains of Moghal grandeur. Leaving the Fort by the Southern or Delhi Gate and turning to the right one is faced by the Jama Masjid, another monument of the taste of Shahjahan. The gateway and the lofty ascent into this House of God are very fine. The mosque in the regular beauty and grandeur of its lines, appealing to the sublimity rather than to the mystery of religion, is a fitting symbol of the faith for whose service it was raised. South of the Jama Masjid in a part of the city once included in Firozabad stands the Kalan or Kala Masjid with low cupolas and heavy square black pillars, a striking example of the sombre architecture of the Tughlak period. A narrow street called the Dariba leads from the Jama Masjid to the wide Chandni (Silver) Chauk. The Dariba was formerly closed by the Khiini Darwaza or Gate of Blood, so called because here occurred that terrible massacre of the citizens of Delhi which Nadir Shah witnessed from the neighbouring Golden Mosque. Besides its width there is nothing remarkable about the Chandni Chauk. But the visitor in quest of silver work, jewellery, or embroidery will find there many shopkeepers ready to cater for his wants. It was while passing down the Chandni Chauk in an elephant procession on 23rd December, 1912, that Lord Hardinge was wounded by a bomb thrown from one of the houses. From the Chauk one may pass through the Queen's Gardens and Road to the opening in the wall where the Kabul Gate once stood and so leave the City. A tablet in the vicinity marks the spot where John Nicholson fell.

When visiting the old Delhis it is a good plan to drive

again through the City and to leave it by the Delhi Gate. Humayun's tomb, an early and simple, but striking, specimen of Moghal architecture, is reached at a distance of four miles along the Mathra road. Outside the City the road first leaves on the left side the ruined citadel of Firoz Shah containing the second Asoka pillar. North and south of this citadel the town of Firozabad once lay. It ended where the Purana Kila' or Old Fort, the work of Sher Shah and Humayun, now stands, a conspicuous object from the road about three miles from Delhi. The red sandstone gateway very narrow in proportion to its height is a noble structure, and within the walls is Sher Shah's mosque. The fort and mosque are the last important works of the second or Tughlak period. Hindus call the site of the Old Fort, Indarpat. If any part of Delhi has a claim to antiquity it is this, for it is alleged to be one of the five "pats" or towns over which the war celebrated in the Mahabharata was waged. A recent cleaning of part of the interior of the fort brought to light bricks belonging to the Gupta period. From Humayun's tomb a cross road leads to the Gurgaon road and the Kutb. But the visitor who has seen enough of buildings for the day may proceed further down the Mathra road and reach the headworks of the Agra Canal at Okhla by a side road. The view looking back to Delhi up the Jamna is fine.

The Kutb Minar.—Starting for the Kutb from Humayun's tomb (page 207) the Dargah of the great Chisti saint and political intriguer, Nizam ud din Aulia, is passed on the left. He died in 1324 A.D. Just at the point where the cross road meets the Gurgaon road is the tomb of Safdar Jang, the second of the Nawab Wazirs of Oudh. He died after the middle of the eighteenth century, and the building is wonderfully good considering that it is one of the latest important monuments of the Moghal period. Six miles to

the south of Safdar Jang's tomb the entrance to the Kutb Minar enclosure is reached. The great Kuwwat ul Islam mosque of Kutbuddin Aibak (page 204) was constructed out of the materials of a Jain temple which stood on the site. Evidence of this is to be found in the imperfectly defaced sculptures on the pillars. An iron pillar nearly 24 feet in height dating back probably to the sixth century stands in the court. The splendid column known as the Kutb Minar (page 205), begun by Kutbuddin and completed by his successor Shams ud din Altamsh, was the minaret of the mosque from which the *nw'azzin* called the faithful to prayer. The disappointment that may be felt when it is seen from a distance is impossible on a nearer view. Its height is now 238 feet, but it was formerly surmounted "by a majestic cupola of red granite." Close by is the Alai Darwaza, a magnificent gateway built by Ala ud din Tughlak in 1310, about 90 years after the Minar was finished. Five miles east of the Kutb are the cyclopean ruins of Tughlakabad (page 206).

Delhi past and present.—The Delhi of Aurangzeb was as much a camp as a city. When the Emperor moved to Agra OF Kashmir the town was emptied of a large part of its inhabitants. It contained one or two fine *bazars*, and nobles and rich merchants and shopkeepers had good houses, set sometimes in pleasant gardens. But the crowds of servants and followers occupied mud huts, whose thatched roofs led to frequent and widespread fires. In that insanitary age these may have been blessings in disguise. "In Delhi," wrote Bernier, "there is no middle state. A man must either be of the highest rank or live miserably....For two or three who wear decent apparel there may always be reckoned seven or eight poor, ragged, and miserable beings." The ordinary street architecture of modern Delhi is mean enough, and

posterity will not open an eyelid to look at the public buildings which its present rulers have erected in the city. But at least the common folk of Delhi are better housed, fed, and clad than ever before. It is now a clean well-managed town with a good water supply, and it has become an important railway centre and a thriving place of trade. Since 1881 the population has steadily increased from 173,393 to 232,837 in 1911. In 1911-12 the imports into Delhi City from places outside the Pan jab amounted to 9,172,302 maunds. There are some fifteen cotton ginning, spinning, and weaving mills, besides flour mills, iron foundries, two biscuit manufactories, and a brewery. The city is well supplied with hospitals including two for women only. Higher education has been fostered by S. Stephen's College in charge of the Cambridge Missionary brotherhood. The Hindu college has not been very successful. Delhi has had famous "hakims," practising the Yiinani or Arabic system of medicine, which is taught in a flourishing school known as the Madrasa 1 Tibbiya.

Imperial Darbdrs.—In this generation the plain to the north of the Ridge has been the scene of three splendid *darbdrs*. When on 1st January, 1877, Queen Victoria assumed the title of Empress of India (*Kaisar i Hind*) it seemed fitting that the proclamation of the fact to the princes and peoples of India should be made by Lord Lytton at the old seat of imperial power. On 1st January, 1903, Lord Curzon held a *darbar* on the same spot to proclaim the coronation of King Edward the VIIth. Both these splendid ceremonies were surpassed by the *darbar* of 12th December, 1911, when King George and Queen Mary were present in person, and the Emperor received the homage of the ruling chiefs, the great officials, and the leading men of the different provinces. The • King and Queen entered Delhi on 7th December, and in the week that followed the craving of the Indian peoples

for "*darshan*" or a sight of their sovereign was abundantly gratified. None who saw the spectacles of that historic week will ever forget them.

New Imperial Capital.—The turn of Fortune's Wheel has again made Delhi an imperial city. The transfer of the seat of government from Calcutta announced by the

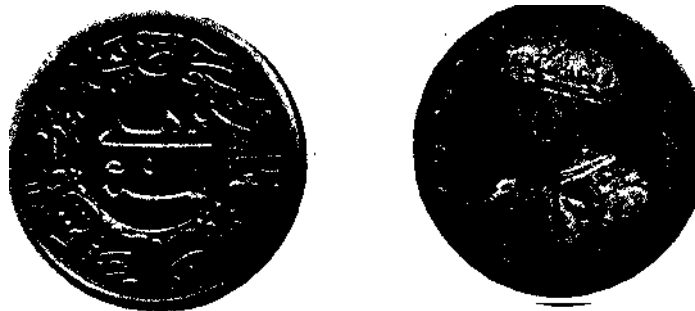


Fig. 146. Darbar Medal.

King Emperor at the *darbar*, is now being carried out. The site will probably extend from Safdar Jang's tomb to a point lying to the west of Firoz Shah's citadel.

Lahore (31.34 N., 74.21 E.). The capital of the Panjab lies on the east bank of the Ravi, which once flowed close to the Fort, but has moved a mile or two to the west. In high floods the waters still spread over the lowlands between the Ravi and the Fort. Lahore lies nearly half-way between Delhi and Peshawar, being nearer to the latter than to the former.

* **Early History.**—Practically we know nothing of its history till Mahmud conquered the Panjab and put a garrison in a fort at Lahore. Henceforth its history was intimately connected with Muhammadan rule in India. Whether* north-western India was ruled from Ghazni or from Delhi, the chief provincial governor had his headquarters at Lahore, In the best days of Moghal rule

Agra and Lahore were the two capitals of the Empire. Lahore lay on the route to Kabul and Kashmir, and it was essential both to the power and to the pleasures of the Emperors that it should be strongly held and united to Delhi and Agra by a Royal or *Bddshdhi* Road. The City and the Suburbs in the reign of Shahjahan probably covered three or four times the area occupied by the town in the days of Sikh rule. All round the city are evidences of its former greatness in ruined walls and domes.

The Civil Station.—The Anarkali gardens and the buildings near them mark the site of the first Civil Station. John Lawrence's house, now owned by the Raja of Punch, is beyond the Chauburji on the Multan Road. The Civil Lines have stretched far to the south-east in the direction of the Cantonment, which till lately took its name from the tomb of Mian Mir, Jahangir's spiritual master. The soil is poor and arid. Formerly the roads were lined with dusty tamarisks. But of late better trees have been planted, and the Mall is now quite a fine thoroughfare. The Lawrence Hall Gardens and the grounds of Government House show what can be done to produce beauty out of a bad soil when there is no lack of water. There is little to praise in the architecture or statuary of modern Lahore. The marble canopy over Queen Victoria's statue is however a good piece of work. Of the two cathedrals the Roman Catholic is the better building. The Montgomery Hall with the smaller Lawrence Hall attached, a fine structure in a good position in the public gardens, is the centre of European social life in Lahore. Government House is close by, on the opposite side of the Mall. Its core, now a unique and beautiful dining-room with domed roof and modern oriental decoration, is the tomb of Muhammad Kasim Khan, a cousin of Akbar. Jamadar Khushal Singh, a well-known man in Ranjit Singh's reign, built a house round the tomb. After annexation, Henry

Lawrence occupied it for a time, and Sir Robert Montgomery adopted it as Government House. It is now much transformed. Beyond Government House on the road to the Cantonment are the Club and the Panjab Chiefs' College, the only successful attempt in Lahore to adapt oriental design to modern conditions.

The Indian City.—In its streets and *bazars* Lahore is a truly eastern city, and far more interesting than Delhi, so far as private buildings are concerned. In public



Fig. 147 Street in Lahore.

edifices it possesses some fine examples of Moghal architecture. Every visitor should drive through the town to the Fort past Wazir Khan's mosque. Under British rule the height of the city wall has been reduced by one-half and the moat filled in and converted into a garden. Wazir Khan's mosque founded in 1634 by a Panjabi

minister of Shdhjahan, is a noble building profusely adorned with glazed tiles and painted panels. The Golden Mosque was constructed 120 years later about the same time as Safdar Jang's tomb at Delhi. The palace fort, built originally by Akbar, contains also the work of his three successors. The Shish Mahal or Hall of Mirrors, which witnessed the cession of the Panjab to the Queen of England, was begun by Shahjahan and finished by Aurangzeb. The armoury contains a curious collection of weapons. The Badshahi Mosque opposite with its beautiful marble domes and four lofty minarets of red sandstone was founded in 1673 in the reign of Aurangzeb. The cupolas were so shaken by an earthquake in 1840 that they had to be removed. Maharaja Ranjit Singh used the mosque as a magazine. In the space between it and the Fort he laid out the pretty orange garden known as the Huzuri Bagh and set in it the marble *bdradari* which still adorns it. Close by are his own tomb and that of Arjan Das, the fifth Guru.

Buildings outside Lahore.—The best example of Moghal architecture is not at Lahore itself, but at Shahdara across the Ravi. Here in a fine garden is the Mausoleum of Jahangir with its noble front and four splendid towers. It enshrines an exquisite sarcophagus, which was probably once in accordance with the Emperor's wish open to the sunlight and the showers. Near by are the remains of the tombs of his beautiful and imperious consort, Nur Jahan, and of her brother Asaf Khan, father of the lady of the Taj. Another building associated with Jahangir is Anarkali's tomb beside the Civil Secretariat. The white marble sarcophagus is a beautiful piece of work placed now in most inappropriate surroundings. The tomb was reared by the Emperor to commemorate the unhappy object of his youthful love. Half-a-mile off on the Multan road is the Chauburj, once the gateway of the Garden

of Zebunnissa, a learned daughter of Aurangzeb. The garden has disappeared, but the gateway, decorated with

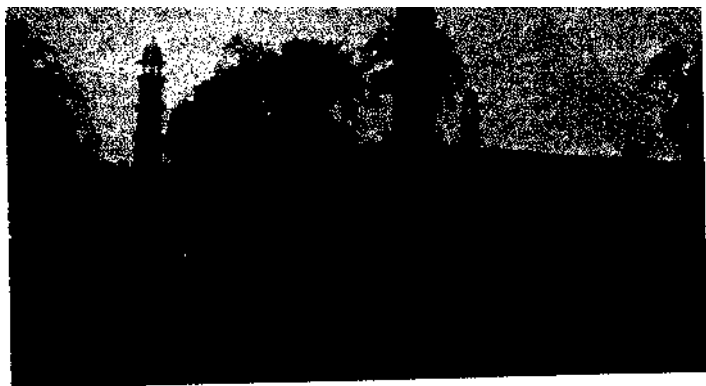


Fig. 148. Shahdara.

blue and green tiles, though partially ruined, is still a beautiful object. On the other side of Lahore on the road to Amritsar are the Shalimar Gardens laid out by Shahjahan for the ladies of his court. When the paved channels are full and the fountains are playing, and the lights of earthen lamps are reflected in the water, Shalimar is still a pleasant resort.

The Museum in Anarkali contains much of interest to Indians and Europeans. The "house of wonders" is very popular with the former. It includes a very valuable collection of Buddhist sculptures. Opposite the museum is the famous Zamzama gun (page 187).

Growth of Lahore. As the headquarters of an important Government and of a great railway system

Lahore has prospered. Owing to the influx of workers the population has risen rapidly from 157,287 in 1881 to 228,687 in 1911. The railway alone affords support to 30,000 people, of whom 8000 are employed in the work-shops.

Amritsar (31.38 N., 74.53 E.) is a modern town founded in the last quarter of the sixteenth century by the fourth Guru, Ram Das, on a site granted to him by Akbar. Here he dug the Amrita Saras or Pool of Immortality, leaving a small platform in the middle as the site of that Har Mandar, which rebuilt is to-day, under the name of the Darbar Sahib, the centre of Sikh devotion. The fifth Guru, Arjan Das, completed the Har Mandar. Early in the eighteenth century Amritsar became without any rival the Mecca of the Sikhs, who had now assumed an attitude of warlike resistance to their Muhammadan rulers. Once and again they were driven out, but after the victory at Sirhind in 1763 they established themselves securely in Amritsar, and rebuilt the temple which Ahmad Shah had burned. Ranjit Singh covered the Darbar Sahib with a copper gilt roof, whence Englishmen commonly call it the Golden Temple. He laid out the Ram Bagh, still a beautiful garden, and constructed the strong fort of Govindgarh outside the walls.

Trade and Manufactures.—Amritsar lies in a hollow close to a branch of the Upper Barf Doab Canal. Water-logging is a great evil and accounts for the terrible epidemics of fever, which have occurred from time to time. The population has fluctuated violently, and at the last census was 152,756, or little larger than in 1881. Long before annexation the shawl industry was famous. The caprice of fashion a good many years ago decreed its ruin, but carpet weaving, for which Amritsar is still famous, fortunately did something to fill the gap. Amritsar has also been an entrepot of trade with other Asiatic countries.

It has imported raw silk from Bokhara, and later from China, and woven it into cloth. It has dealt in China tea, but that is a decreasing trade, in opium from Afghanistan, and in *charas* from Central Asia. There is a considerable export of foreign piece goods to Kashmir and the N. W. F. Province.

Multan (30.1 N., 71.3 E.), though now the smallest of the four great towns of the Panjab, is probably the most ancient. It is very doubtful whether it is the fortress of the Malloi, in storming which Alexander was wounded. But when Hiuen Tsang visited it in 741 A.D. it was a well-known place with a famous temple of the Sun God. Muhammad Kasim conquered it in 712 A.D. (page 166). It was not till the savage Karmatian heretics seized Multan towards the end of the tenth century that the temple, which stood in the fort, was destroyed. It was afterwards rebuilt, but was finally demolished by order of Aurangzeb, who set up in its place a mosque. Under the Moghals Multan was an important town, through which the trade with Persia passed. Its later history has already been noticed (pages 183 and 186).

The Fort contains the celebrated Prahladpuri temple, much damaged during the siege in 1848, but since rebuilt. Its proximity to the tomb of Bahawal Hakk, a very holy place in the eyes of the Muhammadans of the S.W. Panjab and Sindh, has at times been a cause of anxiety to the authorities. Bahawal Hakk and Baba Farid, the two great saints of the S.W. Panjab, were contemporaries and friends. They flourished in the thirteenth century, and it probably would be true to ascribe largely to their influence the conversion of the south-west Panjab to Islam, which was so complete and of which we know so little. The tomb of Bahawal Hakk was much injured during the siege, but afterwards repaired. Outside is a small monument marking the resting place of the brave old Nawab Muzaffar

Khan. Another conspicuous object is the tomb of Rukn ud dīn 'Alam, grandson of Bahawal Hakk. An obelisk in the fort commemorates the deaths of the two British officers who were murdered on the outbreak of the revolt. A simpler epitaph would have befitted men who died in the execution of their duty.

Trade and Manufactures.—Though heat and dust make the climate of Multan trying, it is a very healthy place. The population rose steadily from 68,674 in 1881 to 99,243 in 1911. The chief local industries are silk and cotton weaving and the making of shoes. Multan has also some reputation for carpets, glazed pottery and enamel, and of late for tin boxes. A special feature of its commerce is the exchange of piece goods, shoes, and sugar for the raw silk, fruits, spices, and drugs brought in by Afghan traders. The Civil Lines lie to the south of the city and connect it with the Cantonment, which is an important military station.

Peshawar (34.1 N., 71.35 E.) is 276 miles from Lahore and 190 from Kabul. There is little doubt that the old name was Purushapura, the town of Purusha, though Abu Rihan (Albiruni), a famous Arab geographer, who lived in the early part of the eleventh century, calls it Parshawar, which Akbar corrupted into Peshawar, or the frontier fort. As the capital of King Kanishka it was in the second century of the Christian era a great centre of Buddhism (page 164). Its possession of Buddha's alms bowl and of yet more precious relics of the Master deposited by Kanishka in a great *stupa* (page 203) made it the first place to be visited by the Chinese pilgrims who came to India between 400 and 630 A.D. Hiuen Tsang tells us the town covered 40 li or 6½ miles. Its position on the road to Kabul made it a place of importance under the Moghal Empire. On its decline Peshawar became part of the dominions of the Durani rulers of

Kabul, and finally fell into the hands of Ranjit Singh. His Italian general Avitabile ruled it with an iron rod. In 1901 it became the capital of the new N. W. F. Province.

The Town lies near the Bara stream in a canal-irrigated tract. On the north-west it is commanded by the Bala Hissar, a fort outside the walls. The suburbs with famous fruit gardens are on the south side, and the military and civil stations to the west. The people to be seen in the *bazdrs* of Peshawar are more interesting than any of its buildings. The Gor Khatri, part of which is now the *tahsil*, from which a bird's-eye view of the town can be obtained, was successively the site of a Buddhist monastery, a Hindu temple, a rest-house built by Jahangir's Queen, Nur Jahan, and the residence of Avitabile. The most noteworthy Muhammadan building is Muhabbat Khan's mosque. Avitabile used to hang people from its minarets. The Hindu merchants live in the quarter known as Andar Shahr, the scene of destructive fires in 1898 and 1913. Peshawar is now a well-drained town with a good water supply. It is an entrepot of trade with Kabul and Bokhara. From the former come raw silk and fruit, and from the latter gold and silver thread and lace *en route* to Kashmir. The Kabuli and BokMran traders carry back silk cloth, cotton piece goods, sugar, tea, salt, and Kashmir shawls.

Simla (31.6 N., 77.1 E.) lies on a spur of the Central Himalaya at a mean height exceeding 7000 feet. A fine hill, Jakko, rising 1000 feet higher, and clothed with *deodar*, oak, and rhododendron, occupies the east of the station and many of the houses are on its slopes. The other heights are Prospect Hill and Observatory Hill in the western part of the ridge. Viceregal Lodge is a conspicuous object on the latter, and below, between it and the Annandale race-course, is a fine glen, where the visitor in April from the dry and dust[^] plains can gather

yellow primroses (*Primula floribunda*) from the dripping rocks. The beautiful Elysium Hill is on a small spur

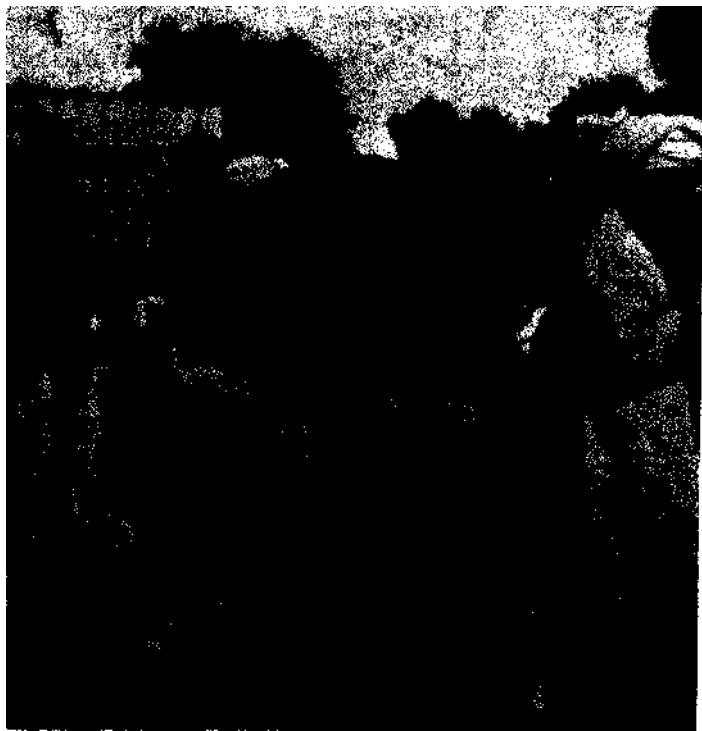


Fig. 149. Trans-border traders in Peshawar.

running northwards from the main ridge. Simla is 58 miles by cart road from Kalka, at the foot of the hills, and somewhat further by the narrow gauge railway.

History.—Part of the site was retained at the close of the Gurkha war in 1816, and the first English house, a wooden cottage with a thatched roof, was built three years later. The first Governor General to spend the summer in Simla was Lord Amherst in 1827. After the annexation of the Panjab in 1849 Lord Dalhousie went there every year, and from 1864 Simla may be said to have become the summer capital of India. It became the summer headquarters of the Pan jab Government twelve years later. The thirty houses of 1830 have now increased to about 2000. Six miles distant on the beautiful Mahasu Ridge the Viceroy has a "Retreat," and on the same ridge and below it at Mashobra there are a number of European houses. There are excellent hotels in Simla, and the cold weather tourist can pay it a very pleasant visit, provided he avoids the months of January and February.

Srinagar (34.5 N., 74.5 E.), the summer capital of the Maharaja of Kashmir, is beautifully situated on both banks of the river Jhelam at a level of 5250 feet above the sea. To the north are the Hariparvat or Hill of Vishnu with a rampart built by Akbar and the beautiful Dal lake. Every visitor must be rowed up its still waters to the Nasim Bagh, a grove of plane (*chenar*) trees, laid out originally in the reign of the same Emperor. Between the lake and the town is the Munshi Bagh, in and near which are the houses of Europeans including the Residency. The splendid plane trees beside the river bank, to which house boats are moored, and the beautiful gardens attached to some of the houses, make this a very charming quarter. The Takht i Suliman to the west of Srinagar is crowned by a little temple, whose lower walls are of great age. The town itself is intersected by evil-smelling canals and consists in the main of a jumble of wooden houses with thatched roofs. Sanitary abominations have been cleansed from time to time by great fires and punished



Fig. 150 Mosque of the Shah Hamadan.

by severe outbreaks of cholera. The larger part of the existing city is on the left side. The visitor may be content to view the parts of the town to be seen as he is rowed down the broad waterway from the Munshi Bagh passing under picturesque wooden bridges, and beside temples with shining metal roofs and the beautiful mosque of Shah Hamadan. On the left bank below the first bridge* is the Shergarhi with the Maharaja's houses and the Government Offices. Opposite is a fine *ghat* or bathing place with stone steps. Between the third and fourth bridges on the right bank is Shah Hamadan's mosque, a carved cedar house with Buddhist features, totally unlike the ordinary Indian mosque. The stone mosque close by on the opposite side, built by Mir Jahan, was seemingly rejected by Muhammadans as founded by a woman, and is now a State granary. The Jama Masjid is on the north side, but not on the river bank. The tomb of the great king, Zain ul Abidin, is below the fourth bridge, which bears his name. In the same quarter are the storehouses of the dealers in carpets and art wares and the Mission School. The last should be visited by anyone who wishes to see what a manly education can make of material in some respects unpromising.

CHAPTER XXX

OTHER PLACES OF NOTE

I. PANJAB.

(a) Ambdla Division.

Ambala, 30-2 N.-76-4 E. Population 80,131, of which 54,223 in Cantonments. A creation of British rule. It became the headquarters of the Political Agent for the Cis-Sutlej States in 1823, and the Cantonment was established in 1843. The Native City and the Civil Lines lie some miles to the N.W. of the Cantonment. Headquarters of district and division.

Bhiwani (Hissar), 28-5 N.-76-8 E. Headquarters of *tahsil* in Hissar. Population 31,100. On Rewari—Ferozepore branch of Rajputana—Malwa Railway. Has a brisk trade with Rajputana.

Hansi (Hissar), 29-7 N.-75-6 E. Headquarters of *tahsil*. Population 14,576. A very ancient town. In centre of canal tract of Hissar, and a local centre of the cotton trade.

Hissar, 29-1 N.-75-4 E. Headquarters of district. Population 17,162. Founded by the Emperor Firoz Shah Tughlak, who supplied it with water by a canal taken from the Jamna. This was the origin of the present Western Jamna Canal. Is now a place of small importance.

Jagadhri (Ambala), 30-1 N.-77-2 E. Headquarters of *tahsil*. Population 12,045. Connected with the N.W. Railway by a light railway. The iron and brass ware of Jagadhri are well known.

Kaithal (Karnal), 29-5 N.-76-2 E. Headquarters of sub-division and *tahsil*. Population 12,912. A town of great antiquity. Kaithal is a corruption of Kapisthala—the monkey town, a name still appropriate. Timur halted here on his march to Delhi. Was the headquarters of the Bhais of Kaithal, who held high rank among the cis-Sutlej Sikh chiefs. Kaithal lapsed in 1843.

Karnal, 29-4 N.-76-6 E. Headquarters of district. Population 21,961. On Delhi—Kalka Railway. Till the Western Jamna Canal was realigned it was most unhealthy, and the Cantonment was given up in 1841 on this account. The health of the town is still unsatisfactory. Trade unimportant.

Kasauli (Ambala), 30-5 N.-76-6 E. Small hill station overlooking Kalka. Height 6000 feet. The Pasteur Institute for the treatment of rabies is at Kasauli, and the Lawrence Military School at Sanawar, three miles off.

Panipat (Karnal), 29-2 N.-76-6 E. Headquarters of *tahsil*. Population 26,342. On Delhi—Kalka Railway. An important place in Hindu and Muhammadan times (pages 172 and 179). Local manufactures, brass vessels, cutlery, and glass.

Pihowa (Karnal), 29-6 N.-76-3 E. A very sacred place on the holy stream Sarustf.

Rewari (Gurgaon), 28-1 N.-76-4 E. Headquarters of *tahsil*. Population 24,780. Junction of main line and Rewari—Bhatinda branch of Rajputana—Malwa Railway. Trade in grain and sugar with Rajputana.

Rupar (Ambala), 30-6 N.-76-3 E. Headquarters of subdivision and *tahsil*. Population 6935. Exchange market for products of Hills and Plains. Head works of Sirhind Canal are at Rupar.

Sirsa (Hissar), 29-3 N.-75-2 E. Headquarters of subdivision and *tahsil*. Population 14,629. Sirsa or Sarsuti was an important place in Muhammadan times. Deserted in the great famine of 1783 it was refounded in 1838. On the Rewari—Bhatinda Branch of the Rajputana—Malwa Railway. Has a brisk trade with Rajputana.

Thanesar (Karnal), 29-6 N.-76-5 E. See pages 165 and 168. Noted place of pilgrimage. Headquarters of a *tahsil*. Population 4719. The old Hindu temples were utterly destroyed apparently when Thanesar was sacked by Mahmud in 1014. There is a fine tomb of a Muhammadan Saint, Shekh Chilli.

(b) Jalandhar Division.

Aliwal, 30 6 N.-75'4 E. Scene of Sir Harry Smith's victory over the Sikhs on 28th January, 1846.

Dharmasala (Kangra), 32-1 N.-76-1 E. Headquarters of district. On a spur of the Dhauladhar Range. A Gurkha regiment

is stationed here. The highest part of Dharmsala is over 7000 *feet*, and the scenery is very fine, but the place is spoiled as a hill station by the excessive rainfall, which averages over 120 inches. In the earthquake of 1905, 1625 persons, including 25 Europeans, perished.

Fazilka (Ferozepore), 30-3 N.-74.3 E. Headquarters of sub-division and *tahsil*. Population 10,985. Terminus of Fazilka extension of Rajputana—Malwa Railway, and connected with Ludhiana by a line which joins the Southern Panjab Railway at Macleodganj. A grain mart.

Ferozepore, 30-6 N.-74.4 E. Headquarters of district. Population 50,836 including 26,158 in Cantonment. (See page 245.)

Ferozeshah (Ferozepore), 30-5 N.-74.5 E. The real name is Pherushahr. Sir Hugh Gough defeated the Sikhs here after two days' hard fighting on Dec 21-22, 1845.

Jalandhar, 31-2 N.-75.3 E. Headquarters of district. Population 69,318, including 13,964 in Cantonment. The Cantonment lies four miles to the S.E. of the native town and three miles from the Civil Lines (See page 241.)

Jawala Mukhi (Kangra), 31-5 N.-76-2 E. Celebrated place of Hindu pilgrimage with a famous temple of the goddess Jawalamukhi, built over some jets of combustible gas.

Kangra, 30-5 N.-76-2 E. Headquarters of *tahsil*. Ancient name Nagarkot. The celebrated temple and the fort of the Katoch kings of Kangra were destroyed in the earthquake of 1905. (See pages 168, 171, 183.)

Ludhiana, 30-6 N.-75-5 E. Headquarters of district. Population 44,170. The manufacture of *pashmina* shawls was introduced in 1833 by Kashmiris. Ludhiana is well known for its cotton fabrics and turbans (p. 152).

Mudki (Ferozepore), 30.5 N.-74.5 E. The opening battle of the 1st Sikh War was fought here on 18th December, 1845.

(c) Lahore Division.

Batala (Gurdaspur), 30-5 N.-75-i E. Headquarters of *tahsil*. Population 26,430. Chief town in Gurdaspur district on the Amritsar—Pathankot Railway. Cotton, silk, leathern goods, and soap are manufactured, and there is a large trade in gram and sugar. The Baring Anglo-Vernacular High School for Christian boys is a well-known institution.

Dalhousie (Gurdaspur), 33-3 N.-75-6 E. A well-known hill station at height of 7687 feet, 51 miles N.W. of Pathankot, from which it is reached by tonga. The Commissioner of Lahore and the Deputy Commissioner of Gurdaspur spend part of the hot weather at Dalhousie. It is a very pretty and healthy place, with the fine Kalatop Forest in Chamba close by, and is deservedly popular as a summer resort.

Gujranwala, 32-9 N.-74-1 E. Headquarters of district. Population 29,472. An active trade centre. Ranjit Singh was born, and the tomb of his father, Mahan Singh is, at Gujranwala.

Kasur (Lahore), 31-8 N.-74*3 E. Headquarters of *tahsil* in Lahore. Population 24,783. Between Raiwind and Ferozepore on N.W. Railway, and has direct railway communication with Amritsar. A very ancient place and now an active local trade centre.

Nankana-Sahib (Gujranwala), 31-6 N.-73-8 E. In south of Gujranwala district on Chichoki—Shorkot Railway. Venerated by Sikhs as the early home of Baba Nanak.

Sialkot, 32-3 N.-74-3 E. Headquarters of district. Population 64,869, of which 16,274 in Cantonment. A very old place connected with the legendary history of Raja Sahvahan and his two sons Ptiran and Raja Rasalu. (See also page 165.) The Cantonment is about a mile and a half from the town. Sialkot is an active trade centre. Its hand-made paper was once well known, but the demand has declined. Tents, tin boxes, cricket and tennis bats, and hockey sticks, are manufactured.

Tarn Taran (Amritsar), 31.3 N.-74.6 E. Headquarters of *tahsil*. Population 4260. On Amritsar—Kasur Railway. The tank is said to have been dug by Guru Arjan and it and the temple beside it are held in great reverence by the Sikhs. The water is supposed to cure leprosy. The leper asylum at Tarn Taran in charge of the Rev E. Guilford of the Church Missionary Society is an admirable institution. Clay figures of this popular missionary can be bought in the *bazar*.

(d) Rawalpindi Division,

Attack' (Atak), 32-5 N.-72-1 E. The fort was built by Akbar to protect the passage of the Indus. In the river gorge below is a whirlpool between two jutting slate rocks, called Kamalia and Jamalia after two heretics who were flung into the river in

Akbar's reign. The bridge which carries the railway across the Indus still makes Attock a position of military importance. Population 630.

Bhera (Shahpur), 32°3 N.-72.6 E. Headquarters of *tahsil*. Population 15,202. A very ancient town which was sacked by Mahmud and two centuries later by Chingiz Khan. Has an active trade. The wood-carvers of Bhera are skilful workmen. Woollen felts are manufactured.

Chilianwala (Chelianwala) (Gujrat), 32°7 N.-73.6 E. Famous battlefield (page 187).

Gujrat, 32.3 N.-74.5 E. Headquarters of district. Population 19,090. An old place, famous in recent history for the great battle on 22 February, 1849 (page 187). Has a brisk local trade.

Hasn Abdal (Attock), 33°5 N.-72.4 E. On N.W. Railway. Shrine of Baba Wall Kandahar! on hill above village. Below is the Sikh shrine of the Panja Sahib, the rock in which bears the imprint of Baba Nanak's five fingers {*panja*}

Jhelam, 32.6 N.-73.5 E. Headquarters of district and an important cantonment. Population 19,678, of which 7380 in cantonment. Has only become a place of any importance under British rule. Is an important depot for Kashmir timber trade.

Kalabagh (Mianwalf), 32.6 N.-71.3 E. Population 6654. Picturesquely situated below hills which are remarkable for the fantastic shapes assumed by salt exposed on the surface. The Kalabagh salt is in favour from its great purity. The Malik of Kalabagh is the leading man in the Awan tribe.

Katas (Jhelam), 32.4 N.-72.6 E. A sacred pool in the Salt Range and a place of Hindu pilgrimage. The tears of Śiva weeping for the loss of his wife Sati formed the Kataksha pool in the Salt Range and Pushkar at Ajmer.

Khewra (Jhelam), 32.4 N.-73.3 E. In Salt Range five and a half miles N.E. of Pinddadankhan. The famous Mayo Salt Mine is here.

Malot (Jhelam), 32.4 N.-72.5 E. Nine miles W. of Katas (see above). Fort and temple on a spur of the Salt Range. Temple in early Kashmir style (*Archaeological Survey Reports*, Vol. v pp. 85-90).

Mankiala (Manikyala) (Rawalpindi), 33°3 N.-74.2 E. A little village close to which are the remains of a great Buddhist *stupa* and of a number of monasteries (page 202).

Murree (Marri) (Rawalpindi), 33.5 N.-73.2 E. Hill Station

near Kashmir road on a spur of the Himalaya—height 7517 feet—39 miles from Rawalpindi, from which visitors are conveyed by tonga. The views from Murree are magnificent and the neighbourhood of the Hazara Galis is an attraction. But the climate is not really bracing. The summer headquarters of the Northern Army are at Murree, and before 1876 the Pan jab Government spent the hot weather there. The Commissioner and Deputy Commissioner of Rawalpindi take their work there for several months.

Murth (Jhelam), 32.4 N.-72.6 E. In Gandhala valley on bank of Katas stream. Remains of a Buddhist *stUpa* and of a Jain temple. (*Archaeological Survey Reports*, Vol. 11. pp. 88 and 90.)

Rawalpindi, 33.4 N.-73.7 E. Headquarters of district and division, and the most important cantonment in Northern India. Population 86,483, of which 39,841 in Cantonment. It owes its importance entirely to British rule. Large carrying trade with Kashmir. Contains the N.W. Railway Locomotive and Carriage works and several private factories, also a branch of the Murree brewery. There is an important arsenal. The Park, left fortunately mainly in its natural state, is an attractive feature of the cantonment.

Rohtas (Jhelam), 32.6 N.-73.5 E. Ten miles N.W. of Jhelam on the far side of the gorge where the Kaha torrent breaks through a spur of the Tilla Range. Fine remains of a very large fort built by the Emperor Sher Shah Suri.

Sakesar (Shahpur), 31.3 N.-71.6 E. Highest point of Salt Range, 5010 feet above sea level. The Deputy Commissioners of Shahpur, Mianwalf, and Attock spend part of the hot weather at Sakesar. * *

Shahdheri (Rawalpindi), 33.2 N.-72.5 E. On the Hazara border and near the Margalla Pass. Site of the famous city of Taxila (Takshasila). See pages 161, 165, and 204. Excavation is now being carried out with interesting results.

Taxila See Shahdheri.

(e) Multan Division.

Chiniot (Jhang), 31.4 N.-73.0 E. Headquarters of *tahsil*. Population 14,085. A very old town near the left bank of the Chenab. Famous for brasswork and wood-carving. The Muhammadan Khoja traders have large business connections with Calcutta, Bombay, and Karachi. Fine mosque of the time of Shahjahan.

Kamalia (Lyallpur), 30.4 N.~72.4 E. Population 8237. an old town. Cotton printing with hand blocks is a local industry. The town should now prosper as it is a station on the Chichoki—Shorkot Road Railway and irrigation from the Lower Chenab Canal has reached its neighbourhood.

LyaUpur, 31.3 N.-73.9 E. Fine new Colony town. Headquarters of district. Population 19,578. Large wheat trade with Karachf, and has a number of cotton ginning and pressing factories.

Montgomery, 30.4 N.-73.8 E. Headquarters of district. Population 8129. May become a place of some importance with the opening of the Lower Bari Doab Canal. Hitherto one of the hottest and dreariest stations in the Panjab, but healthy.

Pakpattan, 30.2 N.-73.2 E. Headquarters of *tahsil*. Population 7912. On Sutlej Valley Railway. Anciently known as Ajodhan and was a place of importance. Contains shrine of the great Saint Farid ul Hakk wa ud Din Shakarganj (1173-1265). Visited by Timur in 1398. There is a great annual festival attracting crowds of pilgrims, who come even from Afghanistan. There is great competition to win eternal bliss by getting first through the gate at the entrance to the shrine.

II. PANJAB NATIVE STATES.

Bahawalpur, 29.2 N.-71.5 E. Capital of State on N.W Railway 65 miles south of Multan. Population 18,414. There is a large palace built by Nawab Muhammad Sadik Muhammad Khan IV in 1882.

Barnala (Patiala), 32.2 N.-75.4 E. Headquarters of Anahadgarh Nizamat on Rajpura—Bhatinda branch of N.W. Railway. Population 5341. For the famous battle see page 179.

Bhatinda (Patiala), 30.1 N.~75.0 E. Also called Govindgarh. Old names are Vikramagarh and Bhattrinda. Historically a place of great interest (page 167). Fell into decay in later Muhammadan times. Is now a great railway junction and a flourishing grain mart. The large fort is a conspicuous object for many miles round. Population 15,037.

Brahmaur, 32.3 N.-76.4 E. The old capital of Chamba, now a small village. Has three old temples. One of Lakshana Devi has an inscription of Meru Varma, who ruled Chamba in the seventh century.

Chamba, 32.3 N.-76.1 E. Capital of State picturesquely situated on a plateau above right bank of Ravi. Population 5523. The white palace is a conspicuous object. There is an excellent hospital and an interesting museum. The group of temples near the palace is noteworthy (page 201). That of Lakshmi Narayan perhaps dates from the tenth century. The Ravi is spanned at Chamba by a fine bridge.

Chini (Bashahr), 31.3 N.-78.2 E. Headquarters of Kanawar near the right bank of Sutlej Elevation 9085 feet Was a favourite residence of Lord Dalhousie. There is a Moravian Mission Station at Chini.

Kapurthala, 31.2 N.-75.2 E. Capital of State Contains Maharaja's palace. Population 16,367.

Malerkotla, 30.3 N.-75.6 E. Capital of State. Population 23,880.

Mandf, 31.4 N.-76.6 E. Capital of State. Population 7896. On the Bias, 131 miles from Pathankot, with which it is connected by the Pathankot—Palampur—Baijnath road. There is a fine iron bridge spanning the Bias. It is a mart for trade with Ladakh and Yarkand.

Nabha, 30.2 N.-76.1 E. Capital of State. Population 13,620, as compared with 18,468 in 1901. Founded in 1755 by Hamir Singh (page 277). Since irrigation from the Sirhind Canal has been introduced the environs have become waterlogged and the town is therefore unhealthy.

Nahan, 30.3 N.-77.2 E. Capital of Sirmur State Elevation 3207 feet. Population 6341. There is a good iron foundry at Nahan.

Patiala, 30.2 N.-76.3 E. Capital of State. Population 46,974. On Rajpura—Bhatinda Branch of N.W. Railway. Contains fine gardens and modern buildings. The old palace is in the centre of the town. Patiala is a busy mart for local trade.

Pattan Munara (Bahawalpur), 28.1 N.-70.2 E. There are the ruins here of a large city and of a Buddhist monastery. They are situated in the south of the State five miles east of Rahim Yar Khan Station.

Sangrur (Jind), 30.1 N.-75.6 E. Became the capital of Jind State in 1827. Population 9041. On Ludhiana—Dhurf—Jakkhal Railway.

Sirhind (Patiala), 30.4 N.-76.3 E. Properly Sahrind. On N.W. Railway. Population 3843. The idea that the name is

Sir-Hind = head of India is a mistake. An old town of great importance in Muhammadan period (pages 177 and 180). The ruins extend for several miles. There are two fine tombs known as those of the Master and his Disciple dating probably from the fourteenth century.

Sui Vehar (Bahawalpur), 29.2 N.-71.3 E. Six miles from Samasata. Site of a ruined Buddhist *stupa*. An inscription found at Sui Vehar belongs to the reign of Kanishka (page 164).

Uch (Bahawalpur), 29.1 N.-71.4 E. On the Sutlej near the point where it joins the Chenab. Consists now of three villages. But it was in early Muhammadan times a place of great importance, and a centre of learning. It is still very sacred in the eyes of Musalmans.

III. NORTH WEST FRONTIER PROVINCE.

{a) Districts.

Abbottabad, 34.9N.-73.1 E. Headquarters of district and a cantonment with four battalions of Gurkhas. Population 11,506. At south end of Orash Plain 4120 feet above sea level. Appropriately named after Captain James Abbott (page 299).

Bannu. See Edwardesabad.

Cherat (Peshawar), 33.5 N.-71.5 E. Small hill sanitarium in Peshawar near Kohat border, 4500 feet above sea level.

Dera Ismail Khan, 31.5 N.-70.6 E. Headquarters of district and a cantonment. Population 35,131, including 5730 m cantonment. The Powmda caravans pass through Dera Ismail Khan on their march to and from India.

Dungagali (Hazara), 34.6 N.-73.2 E. Small sanitarium, elevation 7800 feet, in Hazara Galis, two miles from Nathiagali. Moshpurf rises above it to a height of 9232 feet.

Edwardesabad (Bannu), 33.0 N.-70.4 E. Headquarters of Bannu district and a cantonment. Founded by Lieutenant (afterwards Sir Herbert) Edwardes in 1848. Population 16,865. It is unhealthy owing to the heavy irrigation in the neighbourhood.

Fort Lockhart (Kohat), 33.3 N.-70.6 E. Important military outpost on Samana Range, elevation 6743 feet. Saragarhf, heroically defended by twenty-one Sikhs in 1897 against several thousand Orakzais, is in the neighbourhood.

Kohat, 33.3 N.-71.3 E. Headquarters of district and a cantonment. Population 22,654, including 5957 in Cantonment. On Khushalgarh—Thal Branch of N.W. Railway.

Mansehra (Hazdra), 34.2 N.-73.1 E. Headquarters of *tahsil*. The two rock edicts of Asoka are in the neighbourhood (pages 163 and 202).

Nathiagali (Hazara), 34.5 N.-73.6 E. Summer headquarters of Chief Commissioner of N.W.F. Province in Hazara Galis. Elevation 8200 feet. It is a beautiful little hill station. Miran Jani (9793 feet) is close by, and on a clear day Nanga Parvat can be seen in the far distance.

Naushahra (Peshawar), 34 N.-72 E. Population 25,498, including 14,543 in cantonment. On railway 27 miles east of Peshawar. Risalpur, a new cavalry cantonment, is in the neighbourhood.

Shekhubudin, 32.2 N.-70.5 E. Small hill station on Nila Koh on border of Dera Ismail Khan and Bannu districts. Elevation 4516 feet. It is on a bare limestone rock with very scanty vegetation and is hot in summer in the daytime. Water is scarce. The Deputy Commissioners of Bannu and Dera Ismail Khan spend part of the hot weather at Shekhubudin.

Thai (Kohat), 33.2 N.-70.3 E. Important military outpost at entrance of Kurram Valley. Terminus of Khushalgarh—Thai branch of N.W. Railway.

Thandiani (Hazara), 34.1 N.-73.2 E. Small hill station in Galls sixteen miles N.E. of Abbottabad. Elevation about 8800 feet. A beautifully situated place chiefly resorted to by residents of Abbottabad and Missionaries.

(b) *Agencies and Independent Territory,*

Ali Masjid (Khaibar), 34.2 N.-71.5 E. Village and fort in Khaibar, 10¼ miles from Jamrud. Elevation 2433 feet.

Ambela (Indep. Territory), 34.2 N.-72.4 E. Pass in Buner, which gave its name to the Ambela campaign of 1863 (Page 191).

Chakdarra (Dir, Swat, and Chitral), 34.4 N.-72.8 E. Military post to N.E. of Malakand Pass on south bank of Swat River.

Chitral, 35.5 N.-71.5 E. A group of villages forming capital of Chitral State. There is a small *bazar*.

Jamrud (Khaibar), 34 N.-71.2 E. Just beyond Peshawar boundary at mouth of Khaibar. Terminus of railway. 10½ miles

west of Peshawar. There is a fort and a large *sarai*. Elevation 1670 feet.

Landi Kotal (Khaibar), 34.6 N.-71.8 E. 20 miles from Jamrud. Fort garrisoned by Khaibar Rifles at highest point of Khaibar route. Elevation 3373 feet. Afghan frontier 6 miles beyond.

Malakand (Dir, Swat, and Chitral), 34.3 N.-71.6 E. Pass leading into Swat Valley from Peshawar district.

Mfram Shah (N. Waziristan), 33.6 N.-70.7 E. Headquarters of North Waziristan Agency in Tochi Valley 3050 feet above the sea.

Parachinar (Kurram), 33.5 N.-70.4 E. Headquarters of Kurram Agency and of Kurram Militia. Climate temperate. Population 2364.

Wana (S. Waziristan), 37.2 N.-69.4 E. Headquarters of South Waziristan Agency. In a wide valley watered by Wana Toi. There is much irrigation and the place is unhealthy, though the elevation of the Valley is from 4300 to 5800 feet.

IV. KASHMIR AND JAMMU.

Baramula, 34.1 N.-74.2 E. Situated at the point where the Jhelam gorge ends and the Vale of Kashmir begins. Travellers who intend to go to Srinagar by water board their house boats here. There is an excellent poplar-lined road from Baramula to Srinagar and a bad road to Gulmarg.

Chilas, 35.4 N.-74.2 E. See page 323.

Gulmarg, 34.1 N.-74.4 E. S.W. of Srinagar. It is a favourite hot weather resort of Europeans. The Maharaja has a house here. The forest scenery is beautiful, especially on the way to the limit of trees at Khilanmarg. Good golf links on beautiful turf.

Gurais, 34.7 N.-74.8 E. A beautiful valley drained by the head waters of the Kishnganga. It lies between Bandipura and the Burzil Pass on the road to Gilgit.

Hunza, 36.4 N.-74.7 E. (See page 323.) Hunza is a group of villages. The Raja's (or Tham's) fort, Baltit castle, at an elevation of 7000 feet is splendidly situated in full view of Rakaposhi, distant 20 miles. It is overhung by the enormous mass of snow peaks said to be called in the language of the country Boiohaghurduanasur (the peak of the galloping horse).

Islamabad, 33.4 N.-75.1 E. About 40 miles by river from Srinagar, near the point where the Jhelam ceases to be navigable. Achabal and Martand are easily visited from Islamabad, and it is the starting point for the Liddar Valley and Pahlgam. It is a dirty insanitary place.

Jammu, 32.4 N.-74.5 E. Capital of the Jammu province and winter residence of the Maharaja. Connected with Sialkot by rail. Situated above the ravine in which the Tawi flows. At a distance the white-washed temples with gilded pinnacles look striking. The town was once much more prosperous than it is to-day.

Leh, 34.2 N.-77.5 E. Capital of Ladakh. On the Indus 11,500 feet above sea-level. The meeting place of caravans from India and Yarkand. The Central Asian caravans arrive in Autumn, when the *bazar*, in a wide street lined with poplars, becomes busy. The Wazir Wazarat has his headquarters here, and there is a small garrison in the mud fort. The old palace of the Gyalpo (King) is a large pile on a ridge overhanging the town. There are Moravian and Roman Catholic missions at Leh.

Martand, 33.4 N.-75.1 E. Remains of a remarkable temple of the Sun god three miles east of Islamabad (pages 166 and 201).

Payer (erroneously **Payech**). Nineteen miles from Srinagar containing a beautiful and well-preserved temple of the Sun god, dated variously from the fifth to the thirteenth century (page 202).

Punch 33.4 N.-74.9 E. Capital of the *jaglr* of the Raja of Punch, a feudatory of the Kashmir State. 3300 feet above sea level. There is a brisk trade in grain and *ghi*. Decent roads connect Punch with Rawalpindi and Uri on the Jhelam. Cart Road into Kashmir. Kashmiris call the place Prunts and its old name was Parnotsa.

Skardo, 35.3 N.-75.6 E. Old capital of Baltistan. 7250 feet above sea-level. In a sandy basin lying on both sides of the Indus, and about five miles in width. A *tahsilddr* is stationed at Skardo.

TABLE I. *Tribes of Punjab {including Native States) and N.W.F. Province*¹.

Landholding etc.			Traders			Artizans and menials			Impure Castes		
Tribes	Panjab pc	N.W.F. P. pc.	1			Tribes	Panjab pc.	N W F. P pc.	Tribes	Panjab p.c.	N.W F. P. pc.
Jats	20-5	3.9	Aroras	2.8	3.1	Lohars and			Chihhra⁸	5.I	
Rajputs	6-8	.7	Khatris	I 8	1.2	Tarkhans²	4-o	3'3	Chamar⁹	4.7	
Arams and			Banias	I.7		Julahas³	2.6	I.7			
Kambohs ...	4-8					Jhinwar and					
Brahmans ...	4.2	.6				Machhi⁴	2.6				
Gujars	2.5	5.2				Kumhar⁵	2.3	I.o			
Biloch	2.2	1.2				Nai⁶	1.4	I.I			
Awan	1.8	12.6				Teli⁷	1.2	.3			
Shekhs includ- ing Kureshi.	I.7										
Kanet	I.7										
Sainis, Malis, and Malhars	I.3	1.8									
Pathans	1.2	38.3									
Saiyyids	I.O	I 4'4									

¹ Only tribes amounting in number to i p c of total population shown.

² Blacksmiths and Carpenters.

³ Weavers.

* Water carriers.

⁵ Potter.

⁶ Barber.

⁷ Oilman.

⁸ Scavenger

⁹ Leather-worker.

TABLE II. *Rainfall, Cultivation, Population, and Land Revenue.*

				Cultivated Area	Classes of Cultivation, p.c.								Land Revenue
Zone	District	Rainfall in Inches	No. of Masonry Wells	Acres 1911-12	Well	Canal	4bi	Total Irrd.	Moist	dry		Population 1911	in 1911-12 in hundreds of rupees
Vlountain and Submontane	Kangra	125	5	587,826			20	20		80	80	770,386	9,267
	Simla	68		9,984			7			93	93	39,320	175
	Ambala	35	2,154	750,515	4		2	6		90	94	689,970	" . 4 7 7
	Hoshiarpur ...	36	6,841	722,122	5	2	1	8	4	92	92	918,569	14.225
	Total British dts. Panjab ...		9,000	2,070,447	3	1	6½			88	89½	2,418,245	35,144 (1.10.0 ¹)
	Hazara (N.W.F. P.)	46	353	430.872	—	—	10	10	—	90	90	603,028	5,129 (1.3.1)
	Kashmir and Jammu Indus Valley ²	35 ⁸ 5 ⁴	—	1,750,056 121,952	—	—	—	32	—	—	68 100	2,893,066 210,315	—
	Total Kashmir			1,872,008				30			70	3,103,381	
North Central Panjab Plain (British Districts)	Gujrat	28	10,221	845,023	26			26	6	68	74	784,011	8,445
	Sialkot	35	23,010	941,558	54	1		58	9	33	42	979,553	14,847
	Gurdaspur	35	6,439	844,403	16	11	3	27	14	59	73	836,771	15,410
	Amritsar	24	12,386	787,229	31			62	4	34	38	880,728	12,746
	Jalandhar	28	28,289	695,571	44			44	5	51	56	801,920	14,871
	Ludhiana	28	9,991	754,373	19	7		26	4	70	74	517,192	11,103
	Total		90,336	4,868,157	32	8	1	41	7	52	59	4,800,175	77,422 (1.9.5)

North-west Area	Rawalpindi ...	33	947	598,371	4	—	i	1		99	99	547,827	6,754
	Jhelam	26	4,103	754,585	4	j	—	4	4	92	96	511,175	7,576
	Attock	19	6,850	1,031,962	2½	—		34	4	96	97	519,273	6,741
	Mianwali	12	7,128	748,255	17	2		19	38½	42½	81	341,377	4,866
	Total Panjab		19,028	3,33,173	6	½ i		7	10	83	93	1,919,652	25,937 (0.13.3)
	Peshawar	13	6,597	894,803	5	1	33	4	38½	2	59½	865,009	11,375
	Kohat	18	467	327,949	4	i	—	12	12½	1½	87	222,690	2,755
	Bannu	13	11	523,688	—	24	—	24	24	76	76	256,086	3,040
	Total N.W.F. P.		7,075	1,746,440	3	24½	2½	30	1	69	70	1,343,785	17,170 (0.15.8)
South-western Plains	Gujranwala ...	24	10,926	1,179,348	37	40	—	77	4	19	23	923,419	10,497
	Lahore	21	13,828	1,462,108	31	434	1	75½	5	19½	24½	1,036,158	11,301
	Shahpur	14	6,403	1,267,566	14	55	—	69	6	25	31	648,989	8,701
	Jhang	10	11,588	723,733	36	46	—	82	16	2	18	515,526	6,429
	Lyallpur	9	121	1,373,892	99	—		99	1		1	857,711	12,736
	Montgomery ...	10	10,472	815,355	27	28	1	56	25	19	44	555,219	6,225
	Multan	7	20,132	1,081,030	58½	26	1	85½	13½	1	14½	814,871	15,865
	Muzaffargarh	6	14,053	553,643	36	33	4	73	27	27	27	569,461	7,316
	DeraGhaziKhan	6	9,564	1,035,011	25½	16	2½	42	534	24	-56	499,860	5,752
	Total Panjab districts		97,087	9,491,686	28	46	1	75	14½	10½	25	6,420,814	84,822 (0.14.4)
	D.I. Khan N.W.F. P.	8	795	544,746	1			26	11	63	74	256,120	3,062 (0.9.0)
South-Eastern Plains (British Districts)	Karnal	30	7,827	1,148,876	13	21	i	—	34	10	56	799,787	10,833
	Delhi³		7,133	555,057	19	18	—	—	6	57	63	657,604	8,563
	Gurgaon	26	6,594	988,613	13	10	i	—	24	3½	72½	643,177	12,182
	Rohtak	21	2,450	974,200	4½	30	—	—	344	2±	654	541,489	9,660
	Hissar	16	720	2,691,478	11½	—	—	—	864	88	88	804,809	8,582
	Ferozepore	21	7,940	2,248,322	7	404	—	—	47½	2	50½	959,657	12,066
	Total Panjab districts		32,664	8,606,546	7	224	—	—	29½	34	70½	4,306,523	61,886 (0.11.6)

¹ Rate per cultivated acre in rupees (Rupee 1 = 16 pence).² =Ladakh, Baltistan, Astor, and Gilgit.⁸ At Jammu.⁴ At Gilgit. ⁵ Leh 3, Skardo 5.Including Frontier *Ilaka* 264,750.⁶ The Delhi district has been broken up, and, with the exception of the area now administered by the Government of India, has been divided between Rohtak and Gurgaon.

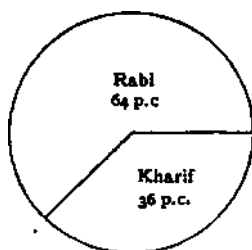
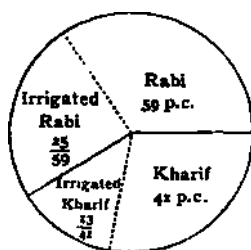
TABLE III. *Diagrams relating to Cultivation.*

PANJAB

N.W.F. PROVINCE

(a) Harvests and Irrigation

(a) Harvests



(b) Classes of Land

(b) Classes of Land

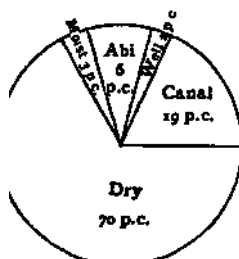
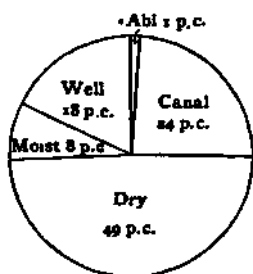
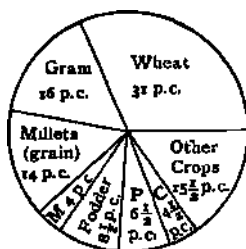


TABLE III (continued).

Diagrams relating to Cultivation.

PANJAB

(c) Crops



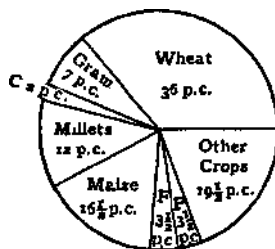
P = Other Pulses

C = Cotton

M=Maize

N.W.F. PROVINCE

(c) Crops



P = Other Pulses

C = Cotton

F= Fodder

TABLE IV. Percentages of Principal Crops¹.

Zone	Districts	Wheat	Barley	Rape and 'ara mira	Pulses		Fodder (both har- vests)	Maize	Millets		Rice	Cotton	Cane	Other Crops (both vests)
					Gram	Other Pulses (both har- vests)			Bajra	Jowar				
Mountain and Submon- tane Zone	Kangra	32	7	1	4	4	21	13	—	—	15	4	1	14½
	Simla	31	15	—	—	3	13	—	—	—	6	—	—	32
	Ambala	26	2	1	17	9	11	10½	1½	1	7	6	2	6
	Hoshiarpur ...	33	1½	1	17	5	7	17½	—	—	4	—	3	7½
	Total Pan jab districts	30	3	1	13	6	6	16	1½	4	8	3	2	11
	Hazara N.W.F. P. ...	26	10	1	—	10	1½	43	1½	1	3	1	—	2
	Kashmir and Jammu Indus Valley	21 29	4 4	—	—	7 12	—	38 7	—	—	9 1	—	—	21 47
	Total Kashmir	23	4	—	—	8	—	35*	—	—	8	—	—	21½
North Central Pan jab Plain (British districts)	Gujrat	42	4	1	8	7	8	2½	15	6	1	1½	1	1
	Sialkot	43	6	1	3	5	15	8	1½	1½	6½	2	4	3½
	Gurdaspur ...	36	4	1	7	13	11	8	—	—	—	1	7	4*
	Amritsar	36	2	3	16	3	20	—	—	—	4½	4	3	3½
	Jalandhar	33	1	—	15	7	23	—	—	—	—	3*	3½	4
	Ludhiana	28	2	2	3	8	11	7	*	3	—	2	2	12
	Total	37	3	1	11	8	14	7	3	2	3	2½	3*	4*

North- west Area	Rawalpindi ... *	41	2	1	1	19	2½	8	17	4	—	1	—	34
	Jhelam	47	2	2	3	10	5	1	21	2	—	2	—	5
	Attock	50	2	2	9	74	2½	2½	19	2½	—	—	—	1
	Mianwali	34	4	3	19	10	2	—	19	4	—	4	—	44
	Total Panjab districts	43	2	2	7	11	34	3	19	3	—	a	—	5
	Peshawar	36½	16	1	1	3	7	18½	1	44	1½	4	3	3
	Kohat	43	2½	1	5	4	2	8	27½	1	4	1	3	3
	Bannu	49	4	—	24	4	4	8	3	1½	4	4	14	4
	Total N.W.F. P. ...	41	10	1	8½	2½	5	13½	6	3	1	2½	2	4
South- western Plains	Gujranwala ...	40	3	4	15½	3	12	2½	2½	3	5	5	2½	2
	Lahore	37	1	6	16	1	15	44	1	1	2½	9	1	5
	Shahpur	44	1	7	7	3	10	2	10	34	1	8	4	3
	Jhang	47	1	2	44	4	10	2	2	8	4	54	—	13½
	Lyallpur	42½	4	13	8	2½	5	4½	1	1	—	9	2½	11
	Montgomery	41	14½	2	13	44	17	3	4	2	3	5	—	7
	Multan	41	1	2	4	6	13	1½	4	8	3	9	—	8½
	Muzaffargarh	44	3	2	8	10	7	—	3	2	7	6	1	6½
	Dera Ghazf Khan ...	27	1	10	34	54	5	—	9	23	8	6	—	2
	Total Panjab districts	40½	1½	6	9	4	10	2	34	4	3	7	1	84
	D.I. Khan K W . F . P .	31	2	13	8	3	4	—	22	9	—	2	—	9½
South- Eastern Plains (British Districts)	Karnal	21	2	5	26½	44	6½	54	5	11½	4	—	2	1
	Rohtak	8	2½	1	34	7	2	—	21	14	—	6½	2	1½
	Gurgaon	8	13	1½	20	12	4	—	25	5	—	8	—	3
	Hissar	4	7	4	28	8	4	—	26	6½	—	3	—	94
	Ferozepore ...	28	7	4	31½	4	8	24	3	6	—	—	—	6
	Total Panjab districts	14	6	3	28½	7	5	1½	15	8	4	34	4	74
	Grand total Panjab N.W.F. P.	31	34	4	16	6½	84	4	9	5	2½	44	1½	4
		36	4	3	7	34	34	16½	8	4	1	2	1	6

¹ In case of Panjab districts figures relate to *Kharif* 1910 and *Rabi* 1911.

TABLE V. *Revenue and Expenditure, 1911-12.*

Heads	Income			Expenditure		
	Total in Rs. 000	Provincial		Total in Rs. 000	Provincial	
		Share	Amount in Rs 000		Share	Amount in Rs. 000
Land Revenue ...	3,47.92	Half	1,73.96	47.76	Whole	47.76
Salt	38,16	Nil		4.82	Nil	
Stamps	52,57	Half	26,29	1.77	Half	89
Excise ...	64,00	Half	32,00	1.71	Half	86
Income-tax	16,22	Half	8,11	11	Half	5
Forests ...	13,10	Whole	13.10	7.64	Whole	7,65
Registration	3.16	Whole	3.16	1,20	Whole	1,20
General Adminis- tration	—	—	—	18,33	Various	13.65
Law and Justice						
—Courts	4.35	Whole	4.35	42,18	Whole	42,18
Law and Justice						
—Jails	3,41	Whole	3,41	12,24	Whole	12,24
Police ...	1,80	Whole	1,80	58,57	Whole	58,57
Education	3,64	Whole	3,64	23,27	Whole	23,27
Irrigation—						
Major Works	2,13,08	Half	1,06,54	1,36,42	Half	68,21
Irrigation—						
Minor Works	7,99	Various	56	11,17	Various	1,07
Civil Works	6,93	Various	6,20	67,90	Various	62,70
Medical...				21,20	Whole	21,20
All other heads ¹	27,60	Nil and various	16,21	56,96	Whole, various, and nil	41,29
Total	8,03,93	—	3,99,33	5,13,25	—	4,02,79

¹ Under Income "Salt," "Tribute," "Interest," "Miscellaneous," and "All other heads." Under Expenditure "Political," "Scientific," "Pensions," "Stationery," "All other items."

INDEX

- Abbott, Captain J. 299, 300
- Abbotabad 302, 303, 355
- Adamwahan railway bridge 46, 283
- Adina Beg 179
- Administration, British 1849-1913
 - 188-195
 - General 212-221
 - Local 222
- Afghan War 1878-1880 193
- Afridis 196, 297, 309
- Agriculture 101,102,143, Tables II, III, IV
- Agriculturists, Legislation to protect 102
- Agror 303
- Ahirs 230, 231
- Ahmad Shah 178, 179
- Aitchison, Sir Charles 194
- Akazais 303
- Akbar 172
- Ala Singh, Raja 273, 274
- Ala ud din 169
- Alexander the Great 161-162
- Alexandra railway bridge 41
- Ah Masjid 356
- Alptagin 168
- Altamsh 170
- Alum 59
- Amb 303
- Ambala division 225-235
 - district 233-235
 - town and cantonment 347
- Ambela 192, 305, 356
- Amntsar district 249
 - town 175, 339, 34°
- Anandpal Raja 168
- Arains 242, 245, 248, 252, 279
- Aravallis 50
- Archaeology 200-208
- Areas 2-3
- Arjan Guru 175
- Aroras 105, 106
- Asoka 162, 163
- Attock, Fort 37, 38, 350
- Attock district 257, 258
- Aurangzeb 172, 177
- Awans 105-254, 258-260, 299-300
- Babar 172, 273
- Babuser pass 301
- Bahawalpur State 280-283
 - town 353
- Bajaur 306
- Balban 170
- Banda 178
- Banias 106
- Bannu district 295, 296
 - town 355
- Bar 261, 262, 267
- Bara river 298, 309
- Baralacha pass 12, 236
- Baramula 40, 357
- Bad Doab Canal, Upper 135, 249, 251
 - Lower 138, 262
- Barnala 179, 353
- Bashahr State 287-290
- Baspa river 288, 289
- Bazar valley 309
- Bern torrent 45
- Bhakkar 258
- Bhittannis 294
- Bhupindar Singh, Maharaja of Patiala 275
- Bhure Singh, Raja of Chamba 286
- Bias river 43-45, 162, 237, 249, 251
 - railway bridge 45
- Bilaspur State 288
- Biloches 104, 105, 268, 269
- Birmal 24
- Black buck 94, 95
- Black Mountain Expedition 191
- Boltoro glacier 2~

- Borax 60
 Boundaries 3-6
 Brahmans 104, 106, 240
 Bnjindar Singh, Raja of Faridkot 280
 Buddhism 114, 115, 169, 236, 289
 Bunhar torrent 254
 Burzil pass 12

 Canals 132-141, 197
 Carving in wood and ivory 154
 Castes 105, 106
 Chagarzais 302
 Chail 29
 Chakdarra 305, 306, 356
 Chakki torrent 45
 Chamba State 245, 246
 town 201, 354
 Chamberlain, Sir Neville 305
 Chamkannis 310, 311
 Chandrabhaga river 2, 41, 286
 (see also Chenab)
 Chandra Gupta 162
 Chatar Singh, Sardar 186-187
 Chenab river 41, 247, 249, 252, 261, 266, 267
 Cherat 31, 355
 Chilas 36, 301, 357
 Chihanwala 187, 351
 Chmgiz Khan 170
 Chfni 44, 288, 354
 Chitral 196, 305, 307, 308, 356
 Chitral and Dir levies 313
 Cholera 101
 Chor mountain 285
 Chos 241
 Christians 119
 Chund Bharwana railway bridge 41
 Climate 64-70
 Coal 58
 Coins 208-211
 Colleges 125, 126
 Colonization of Canal lands 136, 139, 140, 263
 Cooperative Credit Societies 197, 199
 Crops 146-150, Tables III-IV
 Cultivation 142-150, Tables II—III

 Dalhousie, Lord 188
 Dalhousie hill station 68, 246, 350
 Dalip Singh, Maharaja 184
 Dandot 58
 Dane, Sir Louis 199

 Darbar 1877 193~333
 1903 333
 Coronation 1911 199, 333, 334
 Dards 107, 108
 Darius 161
 Darwesh Khel 312
 Daulat Rao Sindhia 183
 Daur valley 312
 Davies, Sir Henry 191
 Deane, Sir Harold 197
 Degh torrent 42, 247
 Delhi, 169, 199, 205-208, 224, 225, 325-334
 Delhi-Ambala-Kalka Railway 130
 Deodar 80, 86, 302, 307
 Dera Gopfpur 44
 Dera Ghazi Khan district 268-270
 Dera Ismail Khan district 294, 295
 town and cantonment 355
 Dharmasala 68, 238, 348
 Dhauladhar 16
 Dhiinds 256
 Dir 305-307
 Domel 40
 Dorah pass 22
 Dor river 299, 301
 Dost Muhammad, Amfr 184
 Drishaks 270
 Dujana State 283
 Dungagalf 355
 Durand, Colonel 194
 Durand, Sir Henry 191
 Durand Line 4, 196, 306, 307, 308

 Earthquake of 1905 197
 Education 119, 121-126
 Edwardes, Sir Herbert 186
 Edwardesabad 355
 Egerton, Sir Robert 191
 Ekbhai mountain 27
 Ethnology 109, no
 Expenditure, Provincial 219-220, Table V
 Exports and Imports 159

 Factories 156, 157
 Famines 195, 227
 Faridkot State 244, 280
 Fateh Singh, Sardar of Kapur-thala 279
 Fauna 90-95
 Ferozepore distnct 243-245
 railway bridge 46
 town and cantonment 349
 Ferozeshah, battle of 186, 244, 349
 Fever, mortality from 100, 101

- Finance 210-222
- Fitzpatnck, Sir Dennis 195
- Flora 71-85
- Fluctuating assessments 221
- Forests 86-89
- Fort Lockhart 355
- Fort Munro 27, 270
- Fossils 53, 55-57
- Fotula 12

- Gaddis 236
- Gajpat Singh, Sardar of Jind 276
- Game 91-95
- Gandamak, treaty of 193
- Gandgarh hills 302
- Ghagar torrent 46, 47, 227, 231, 233
- Ghaibana Sir 31
- Ghakkhars 168, 169, 254, 256, 300
- Ghaznevide raids 168
- Giandan hill 27
- Gilgit 194, 321, 323
- Girl river 235, 285, 288
- Girths 240
- Godwin Austen Mt 21
- Gold 59, 322
- Gomal pass 25, 312
- Gough, Lord 187
- Govind Singh, Guru 177, 178
- Granth Sahib 175
- Grey Inundation Canals 244
- Gujars 107, 241, 245, 252, 300
- Gujranwala district 249
- town 350
- Gujrat battle 187
- district 252
- town 351
- Gulab Singh, Raja 184, 186, 219, 314, 323
- Gulmarg 357
- Gupta Empire 164
- Gurais 357
- Gurchanis 270
- Gurdaspur district 245, 246
- Gurgaon district 229, 230
- Gurkhas 235, 274, 289
- Gurus, Sikh 173-178

- Hakra river 40
- Handicrafts 152-156
- Hangu 297
- Haramukh mountain 14
- Harike ferry 44
- Han Singh Nalwa, Sardar 184
- Haro river 38, 258 209; 301, 302
- Harvests 142

- Hasanzais 303
- Hattu mountains, 288
- Hazara district 186, 298-303
- Himalaya 8-20, 67, 68
- Hindkis 299
- Hindu Kush 22, 23, 305, 307
- Hindur 287
- Hindus and Hinduism 114-118, 119, 120
- Hira Singh Sir, Raja of Nabha 278
- Hissar district 226-228
- town 347
- History 160-199
- Hiuen Tsang 165
- Hoshiarpur district 240, 241, 278
- Humayun 172
- Hunza town 357
- Hunza and Nagar 323
- Hunza-Nagar levies 313
- war 194, 195

- Ibbetson, Sir Denzil 197, 198
- Imperial Service troops 276, 277, 279, 283
- Income and Expenditure 219, 286, Table V
- Indus river 34-39, 260, 270, 281, 296, 300, 302
- Inundation Canals 139, 262, 267
- Islamabad 358

- Jagatjft Singh, Maharaja of Kapurthala 279
- Jahangir 173, 175, 208
- Jains 280
- Jalandhar district 241, 242
- town and cantonment 349
- Jalandhara kingdom 241
- Jalkot 36
- Jammu State 107, 314-317
- town 358
- Jamna river 48, 49
- Jamna Western Canal 133, 135
- Jamrud 356
- Janjuas 254
- Jassa Singh, Ahluwalfa Sardar 279
- Jats 103, 104, 234, 240, 242, 245, 248, 249, 252, 254
- J hang district 265, 266
- Jhelam Canal, Lower 133, 137, 138, 261, 265
- Upper 138, 252
- Jhelam district 253, 254
- river 39, 40, 253, 254, 261, 265, 301
- town and cantonment 351

- Jind 271, 276, 277
 Joint Stock Companies 157, 158
 Jowakis 297, 31c
 Jubbāl State 28;

 Kabul 22, 165
 river, 23, 37, 298
 canal 140, 298
 Kdfiristan range 307
 Kagan 40, 301
 Kaha torrent 270
 Kaisargarh mountain 26
 Kalabagh 38, 39, 295
 Kalachitta range 30, 258
 Kalsia State 280
 Kamalia 353
 Kambohs 263
 Kangra district 235-240
 town and fort 168, 171, 183, 349
 Kanjutis 108
 Kankar 60, 127
 Kaoshan pass 22
 Kapurthala State 278, 279
 town 356
 Karakoram 20, 324
 Karnal district 230-232
 town 348
 Kashmir, Early History 165, 166, 172
 Forests 89
 Population 99, 100, 106, 107
 Territories 2, 12, 14, 16, 20, 21, 193, 314, 324
 Kashmiri Pandits 107
 Kasranis 270
 Katas 201
 Kathias 263
 Keonthal State 287
 Keppel, Sir George Roos 197
 Khaibar 23, 309
 Rifles 308, 309, 313
 Khairimurat hills 30, 258
 Khanki weir 195, 310
 Khanwah Canal 263
 Kharrals 263
 Khatris 105, 106
 Khattaks 297, 298
 Kheora Salt Mine 51, 351
 Khojas 106
 Khosas 270
 Khost 311
 Khowar 308
 Khurmana river 311
 Khushalgarh railway bridge 130
 Kila Drosh, 307, 308

 Kirana hill 261
 Kishnganga river 40, 261, 319
 Kohala 40, 257
 Kohat district 296-298
 salt 57, 58, 296
 town and cantonment 356
 Kolahoi mountain 14
 Kuka rising 192, 193
 Kulu 17, 235, 237, 238
 Kunar river 23, 37, 307
 Kunawar 289
 Kunhar 40, 301
 Kurram militia 313
 river 39, 260, 295, 311
 valley 24, 296

 Ladakh 64, 65, 109, 112, 319-321
 Lagharis 270
 Lahore city 169, 173, 334-339
 district 251, 252
 division 245
 railway bridge 43
 Lahul 64, 236
 Lake, Lord 183
 Land Alienation Act, XIII of 1900 196
 Land Revenue 220, 221
 Landai river 38
 Landi Kotal 357
 Languages 110-113
 Larji 43
 Lawrence Memorial School 234
 Lawrence, Sir Henry 186, 188
 Sir John 188-191
 Legislative Council 195, 216
 Leh 35, 64, 65, 358
 Leprosy 101
 Liddar valley 40
 Lieutenant Governors 188-199
 Local Self Government 195, 217, 218
 Lohars 106, 152
 Loharu State 283
 Lolab valley 40
 Lowari pass 307, 308
 Lower Bari Doab Canal 138, 262, 267
 Chenab Canal 136, 137, 195, 263, 265
 Jhelam Canal 137, 138, 197, 260
 Swat Canal 140, 141, 208
 Ludhiana district 242, 243
 town 153, 349
 Lulusar lake 301
 Lunds 270

- Luri bridge 45
 Lyall, Sir James 194
 Lyallpur district 263, 264
 town 353

 Macleod, Sir Donald 191
 Mahaban mountain 36
 Mahirakula 164
 Mali mud of Ghazni 168
 Mahsud Wazirs 196, 312
 Malakand pass 299, 305, 306,
 357
 Malerkotla State 283
 town 354
 Mali ka parvat 301
 Malka 305
 Mallagorls 308, 309
 Mamdot 244
 Mamunds 306
 Manali 43, 237
 Mandi State 283, 284
 town 354
 Mangal 287
 Mansehra 356
 Mardan 298, 299
 Markanda torrent 47
 Martand temple 166, 358
 Marwats 296
 Mazaris 270
 Mazhbbis 106
 Meghs 107
 Menander 163, 164
 Mendicants 106
 Meos 229
 Metals 59
 Mianwali district 258-260
 Miram Shah 357
 Miranzai 297
 Moghal Empire 171-180
 Mohmands 308, 309
 Mongol invasions 170
 Montgomery, Sir Robert 191
 Montgomery district 261, 262
 town 353
 Mudki battle field 186, 282
 Muhammad Ghorl 169
 Muhammad Tughlak 170, 171
 Muhammadan Architecture 204-
 208
 Muhammadan States, 280-283
 Muhammadans 118, 119, 252, 262,
 291
 Muin ul Mulk 179
 Mulra], Diwan 186-282,
 Multan distnct 266, 267
 division 262
 Multan city 154, 166, 183, 186,
 340, 341
 district 266-267
 division 262
 Municipalities 217
 Murree 68, 256, 303, 351, 352
 Musa ka Musalla mountain 301
 Musallis 106
 Mutiny of 1857 227
 Muzaffargarh distnct 267, 268

 Nabha State 271, 277, 278
 town 354
 Nadir Shah 178
 Nahan State 285
 town 354
 Nalagarh State 207
 Nanga parvat (mountain) 12
 Narama, battlefield of 232
 Nardak 232
 Nathiagali 356
 Naushahra 298, 356
 North West Frontier Province
 197, 291-313
 North Western Railway 129-
 131
 Nun and Kun peaks 12, 324

 Occupations 101, 102, 105, 106,
 152-156
 O'Dwyer, Sir Michael 19Q
 Ohind 37
 Orakzais 196, 297, 309-311
 Otu weir 47

 Pabar river 288
 Pabbi hills 252
 Paharpur canal 292
 Paiwar Kotal 24
 Pakhli plain 302
 Pakpattan 353
 Palosi 36
 Pangi 14, 286
 Panipat 172, 179, 232, 348
 Panjkora river 38, 306, 307
 Panjnad river 41, 382
 Parachas 106
 Parachmar 311, 357
 Pataudi State 283
 Pathans 105, 260, 294, 299, 300,
 304, 311
 Patiala State 180, 271-274
 town 354
 Pattan Munara 354
 Pavech, see Payer
 Payer 201, 358

- Peshawar city 160, 164, 169, 184,
 34I 342
 district 298, 299
 Petroleum 59
 Phillaur 46, 243
 Phulkian States 196, 271-278
 Pihowa 232, 348
 Pirghal mountain 24
 Pitl. *See* Spiti
 Plague 97-99, 100, 195, 245
 Population 96-113
 Pottery 152, 156
 Powmdahs 25
 Pressure, barometric 65-67
 Punch 358

 Railways 128-131
 Rajput Hill Chiefs (Simla) 288
 Rajputs 104, 240, 241, 245, 248,
 254, 288
 Raldang mountain 288
 Rampur 45, 289
 Ranbir Singh, Maharaja of Jind 277
 Ranjit Singh, Maharaja 181-184
 Ravi river 41-43, 247, 251, 262,
 266, 267, 286
 Rawalpindi cantonment and town
 256, 352
 district 255-257
 division 252
 Religions, Kashmir 114
 N.W.F. Province 114
 Panjab 114-117
 Ripon, Lord 195
 Ripudaman Singh, Maharaja of
 Nabha 270
 Rivaz, Sir Charles 197
 Rivers 32-49
 Road, Grand Trunk 127
 Roads 127, 128
 Rogi cliffs 45
 Rohtak district 228, 229
 Roos-Keppel, Sir George 197
 Rotang pass 14, 236
 Rupar 46, 348

 Sabaktagin 167, 168
 Sadik Muhammad Khan, Nawab
 of Bahawalpur 281, 282
 Sad Istragh mountains 22
 Safarmulk lake 301
 Safed Koh range 24, 311
 Saiyyids 105, 304
 Sakesar, 29, 352
 Sakki stream 250
 Salt 57, 58

 Salt Range 29, 30, 253, 254, 257,
 258, 262
 Geology of 51-53
 Flora of 76, 77
 Samana range 297
 Rifles 297, 298
 Sam Ranizai 306
 Sangrur 276, 354
 Sansar Chand, Raja 183
 Sapphires 60
 Saraj 235, 237
 Sarusti torrent 46, 47, 231, 232
 canal 47
 Sasserla 20
 Sattis 256
 Shah Alam, Emperor 181
 Shahjahan 173
 Shah Shuja 184
 Shahpur district 260-262
 Shawal 24
 Shekhubudin 31, 356
 Shekhs 105
 Sher Khan 170
 Sher Singh Maharaja 184
 Shigri glacier 236
 Shipki pass 45
 Shooting 94, 95
 Shuidar mountain 24
 Shyok river 36
 Sialkot district 247
 town and cantonment 164,350
 Sials 266
 Sidhnai canal 139, 267
 Sikandar Lodi 171
 Sikaram mountain 24
 Sikh Jats 104, 250, 252, 276, 280
 wars 186, 187
 religion 117, 118
 Sil torrent 258
 Simla district 254
 hill station 67, 68, 342-344
 Hill States 287-290
 Sind valley 40
 Sirhind canal 135, 136, 195, 227,
 245, 271, 275, 276, 280
 Sirhind, town 177, 180, 354, 355
 Sirmir State 285
 Siwahks 27, 52, 53
 Skardo 36, 321
 Smallpox 101
 Soan torrent (Hoshiarpur) 241
 (Rawalpindi), *see* Sohan
 Sobraon, battle of 186
 Sohag Paja Canals 262
 Sohan torrent 38, 253, 256
 Southern Panjab Railway 130

- Spiti 55, 235, 236
 river 45, 288
 Stiipas 202
 Suds 106
 Suliman range 26, 27, 270, 290
 Sultanpur (Kulu) 238
 Sultanpur (Kapiirthala) 278
 Sunars 106
 Sunndar Bikram Parkash, late
 Raja of Sirmur 285, 286
 Sutlej inundation canals 267
 river 45, 46, 245, 262, 266,
 281, 288

 Takht i Suliman mountain 26
 hill (Kashmir) 318
 Tamerlane. *See* Timur
 Tanawal 302, 303
 Tanawal hills 302
 Tarkanris 307
 Tarkhans (carpenters) 106, 152
 Teri 296
 Thakkars 107
 Thai desert 149, 259-261, 262, 265,
 267
 Thai (Kohat) 297, 311, 356
 Thandiani 356
 Thanesar 165, 168, 232, 348
 Tilla hill 29
 Timur (Tamerlane) 171
 Tirach Mir mountain 22, 308
 Tirah Campaign 176
 Tiwanas 260
 Tochi valley 24, 296
 Tons, river 48
 Torrents, action of 47, 48
 Trade 159
 Traders 105, 106
 Tribal militias 312
 Triple Canal Project 138, 197
 Tumans Biloch 270
 Turis 311

 Uch 355

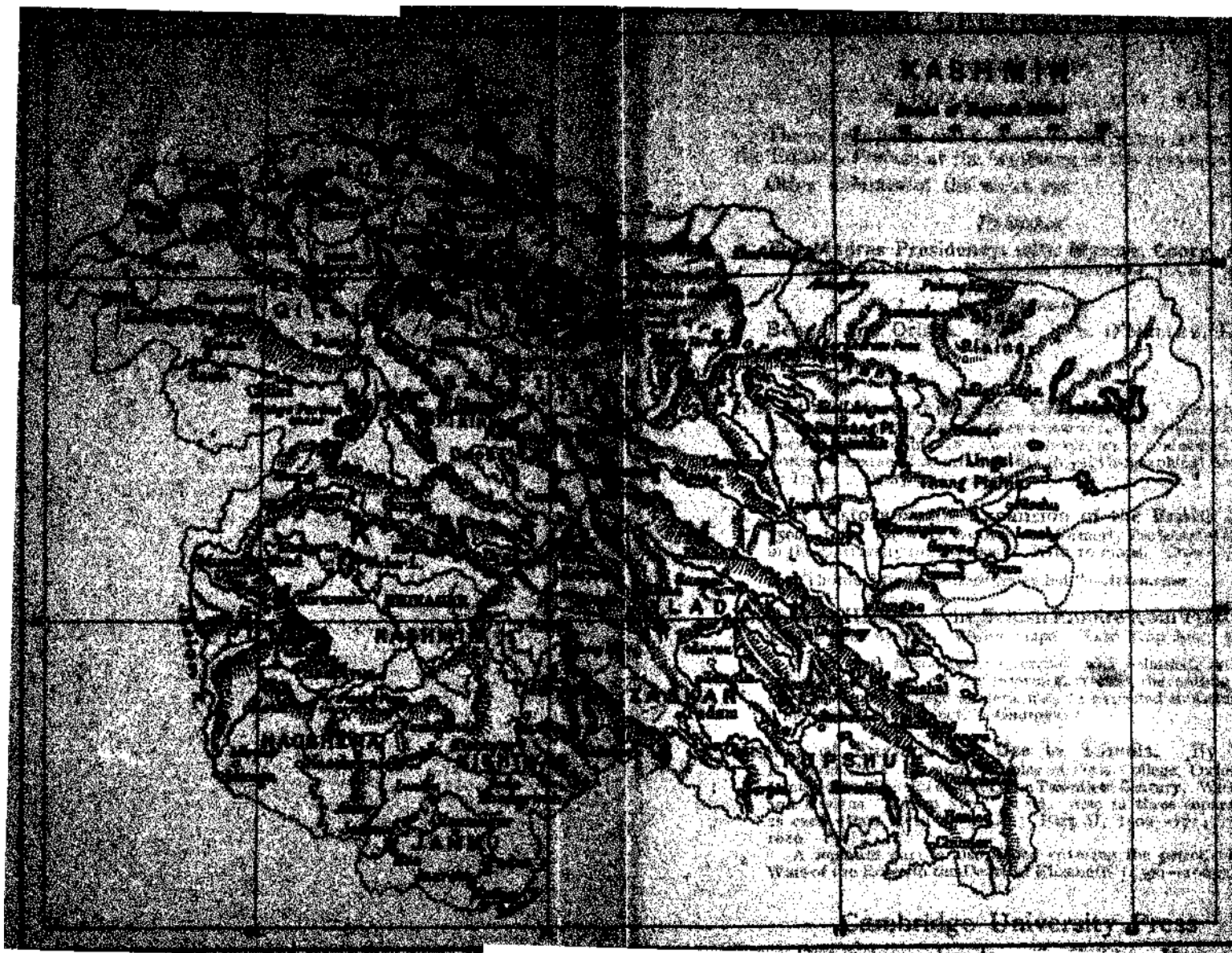
 Uchiri range 307
 Udyana 304
 Ujh torrent 42
 Umra Khan 196
 Unhar river 302
 University, Pan jab 125, 126
 Upper Bari Doab Canal 135, 191,
 247, 249, 251
 Chenab Canal 138, 139, 249
 Jhelam Canal 138, 139, 252
 Swat Canal 141, 298
 Utman Khel 306

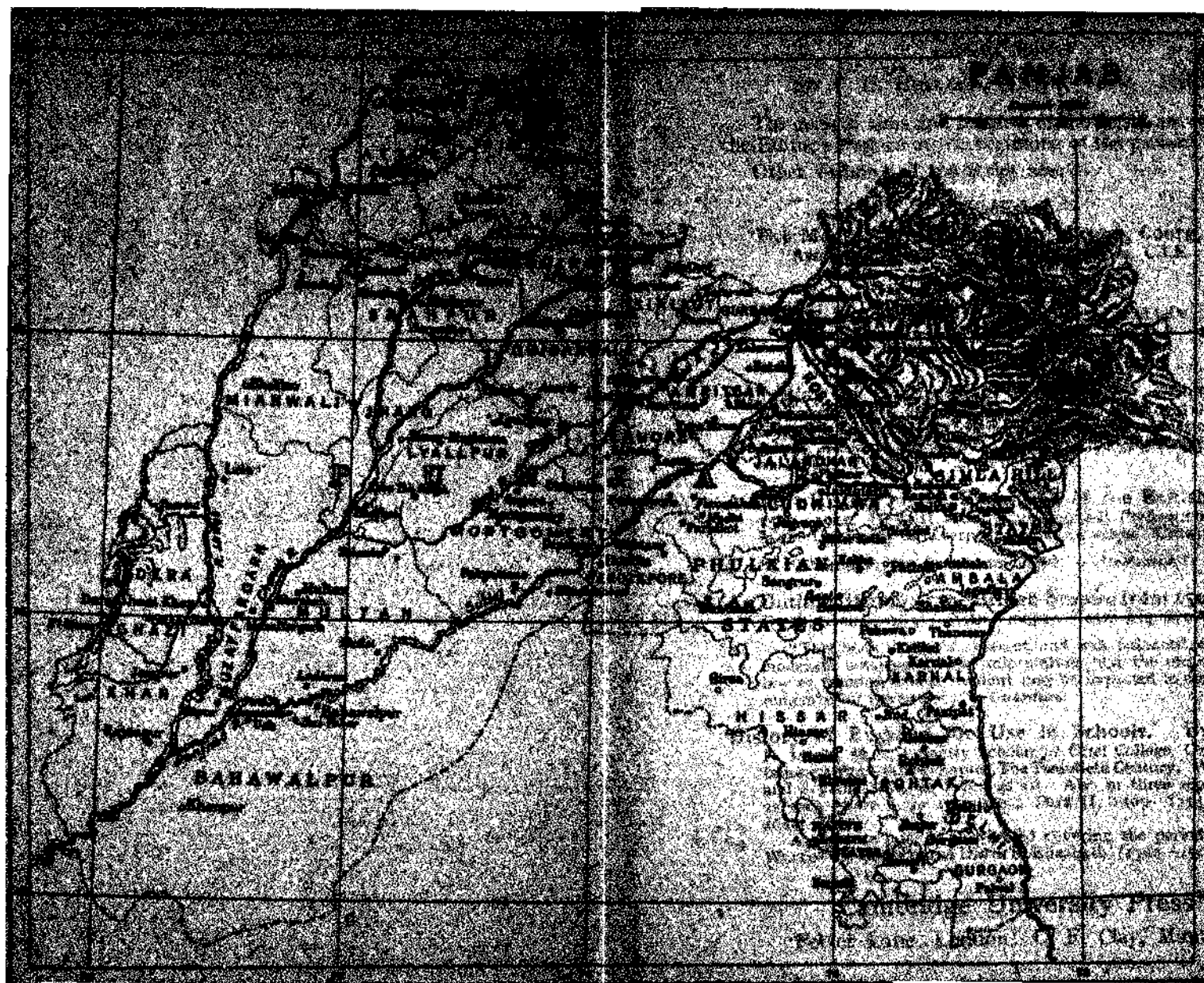
 Vaccination 101

 Wana 24, 196, 312, 357
 Wattis 263
 Wazinstan 312
 hills 24
 militias 313
 Wazirs Darwesh Khel 312
 Madsud 312
 Weavers 102, 152, 154
 Wellesley, Marquis of 182
 Arthur 183
 Wells 143, 144
 Western Jamna Canal 135, 227,
 232, 273, 276
 Wular lake 40

 Yakub Khan, Amir 194
 Yarkhun river 305, 307
 Yasin river 307
 Young, Sir Mackworth 195
 Yisafzais 299, 304, 305, 306

 Zaimukhts 310
 Zakaria Khan 178
 Zakha Khel 309
 Zamzama gun 187
 Zanskar 320
 Himalaya 10, 286
 river 36
 Zojila 12





PROVINCIAL GEOGRAPHIES OF INDIA

General Editor

Sir T. H. HOLLAND, K.C.I.E., DSc, F.R.S.

The general aims and features of the Series are set forth in the Editor's Preface at the beginning of the **present volume**.

Other volumes of the series are:—

Published

The Madras Presidency, with Mysore, Coorg, and The Associated States. By EDGAR THURSTON, C.I.E. 3s net.

In preparation

Bengal and Orissa. By L. S. S. O'MALLEY, I.C.S.

An Atlas of Commercial Geography. Compiled by FAWCETT ALLEN, Assistant Map-Curator to the Royal Geographical Society. Containing 48 coloured maps, an Introduction by D. A. JONES, Assistant Librarian to the Royal Geographical Society, and an Index. Demy 4to. 2s 6d net.

A Short History of the Expansion of the British Empire, 1500—1911 By W. H. WOODWARD, formerly Professor of Education in the University of Liverpool. With 10 maps. Crown 8vo. 4s.

"Thoroughly to be recommended"—*Athenaeum*

An Outline History of the British Empire from 1500 to 1911,

By the same Author. With 6 maps. Extra fcap 8vo. 1s 6d net.

"This book is concise, correct, and well balanced, and gives in moderate compass all the information that the ordinary school-boy or training college student may be expected to assimilate and remember of the subject."—*Guardian*

History of England for Use in Schools. By ARTHUR D. INNES, M.A., formerly Scholar of Oriel College, Oxford. Containing an additional chapter, **The Twentieth Century**. With 13 maps and 8 plans. Crown 8vo. 4s 6d. Also in three separate parts, 2s each (Part I, to 1509 A.D.; Part II, 1509—1714; Part III, 1689—1901).

A separate part is also issued covering the period 'From the Wars of the Roses to the Death of Elizabeth' (1399—1603). Price 2s.

Cambridge University Press

Fetter Lane, London: C. F. Clay, Manager

IN PREPARATION

THE CAMBRIDGE HISTORY OF INDIA

In six volumes, royal 8vo, of between 500 and 600 pages each. With maps (inserted in the text), and abundantly illustrated. Bound in Buckram. Price 15s net per volume.

THE EARLY HINDU PERIOD,

under the editorship of Professor E. J. RAPSON, M.A.

Vol. I. Ancient India, from the earliest historical times to about the beginning of the Christian era.

Vol. II. Medieval India, from about the beginning of, the Christian era to the Muhammadan conquests in the *n*th century A.D.

THE MUHAMMADAN PERIOD,

under the editorship of Lieut.-Col. T. W. HAIG, C.M.G.

Vol. III. Turks and Afghans, from the end of the 10th century A.D. to the conquest of Northern India by Babar, A.D. 1525.

Vol. IV. The Mughal Empire, from A.D. 1525 to 1757.

BRITISH INDIA,

under the editorship of Sir THEODORE MORISON, K.C.L.E.

Vol. V. The Honourable East India Company.

Vol. VI. India under the Crown,

Terms to subscribers

The subscription price for the whole work will be £3 12s net; payable in six instalments of

net each, one instalment becoming due on publication of each of the volumes.

Cambridge University Press

Fetter Lane, London: C. F. Clay, Manager

