LIST OF FIGURES

1.1	Location Map	6
3.1	Geological Map of the Someshwar area	
3.1A	Geological section along the line $X-Y$	() () () At the back
3.2	Structural Map of the Someshwar area	At the back of the thesis
5.1	Geological sketch map showing the sub-areas 15 to 18 of Almora and Baijnath nappe	Š Š
5,2	Stereograms showing the structural elements of the sub-area 15	79
5.3	Stereograms showing the structural elements of the sub-area 16	81
5.4	Stereograms showing the structural elements of the sub-area 17	82
5.5	Stereograms showing the structural elements of the sub-area 18	84
8.1	Geological sketch map showing the the sub-areas 1 to 14 of the Krol nappe	At the back of the tnesis
8.2	Stereograms showing the structural elements of the sub-area 1	135
8.3	Stereograms showing the structural elements of the sub-area 2	i 36
8.4	Stereograms showing the structural elements of the sub-area 3	138
8.5	Stereograms showing the structural elements of the sub-area 4	139

8		Stereograms showing the structural elements of the sub-area 5	141
8		Stereograms showing the structural elements of the sub-area 6	142
٤		Stereograms showing the structural elements of the sub-area 7	145
8		Stereograms showing the structural elements of the sub-area 8	147
8		Stereograms showing the structural elements of the sub-area 9	148
8		Stereograms showing the structural elements of the sub-area 10	149
8		Stereograms showing the structural elements of the sub-area 11	151
. 8	3.13	Stereograms showing the structural elements of the sub-area 12	152
8	3.14	Stereograms showing the structural elements of the sub-area 13	154
٤	3.15	Stereograms showing the structural elements of the sub-area 14	155
8	3.16	Stereogram showing F ₂ folding of Lod quartzites	157
	8.17	Collective stereogram showing F_2 and F_3 axes in Krol nappe	161
		LIST OF PLATES	
1	1.1	Panoramic view of the Someshwar Valley	8
:	3.1	Mylonitised gneiss	32
:	3.2	Unmylonitised porphyroblastic gneiss	32

•

•

	3.3	Drag fold in Almora nappe quartzites near the North Almora thrust	34
	3.4	Quartz rod in gneisses	34
	3.5	Lineation due to mineral orientation in gneiss	35
,	3.6	Ovoids of quartz-tourmaline in myloni- tised gneiss	35
	3.7	Overfolded slates and quartzites	41
	3.8	Mesoscopic F_2 fold hinge in Lower slates and quartzites	41
	3.9	Slaty cleavage parallel to the quartzite bedding	42
	3.10	F ₂ folds in limestones	43
	3.11	F ₂ fold in limestone	43
	3.12	Stromatolites as seen on bedding plane in limestones	45
	3.13	Stromatolites as seen across the bedding plane in limestone. The bedding plane is shown by the trend of the pencil	46
	4.1	Texture of unmylonitised gneiss	54
	4.2	Microcline porphyroblast with inclusion of plagioclase in unmylonitised gneiss	54
	4.3	Texture of a partly mylonitised gneiss showing a broken porphyroblast	58
	4.4	Texture of a partly mylonitised gneiss showing increased crushing and granulation	58

4.5	Texture of a partly mylonitised gneiss showing an advance stage of crushing and granulation	59
4.6	Texture of a totally mylonitised gneiss	63
4.7	Porphyroclast of quartz showing strain shadow and rims of fine quartz granules in mylonitised gneiss	63
4.8	Altered and drawn-out relict of felspar in mylonitised gneiss	65
4.9	Plagioclase with included fragments of tourmaline	65
4.10	Tourmaline showing intergrowth with plagicelase	68
4.11	Almora nappe quartzite showing granulitic texture and parallel shear planes	68
4.12	Crinkled phyllonites with a strain-slip cleavage	70
4.12A	Texture of uncrinkled phyllonites	70
4.13	Texture of epidiorite	72
4.14	Leucoxene patches with ilmenite cores in epidiorites	72
7.1	Texture of the slates from Lower slates and quartzites	109
7.2	Texture of the quartzites from Lower slates and quartzites	109
7.3	Stromatolitic structure showing well developed hemispheroids	113
7.4	Texture of a quartz argillitic patch in Upper slates	117
* 1		

7.5	Contorted silliceous bands in chlorite schist	120
7.6	Texture of the quartzites of Lod series	124
8.1	Upper slate showing a slip cleavage in the axial-plane direction	144
8.2	A view of the Lod-Niral reverse fault as seen from the village Ranman	163
	LIST OF TABLES	
2.1	Previous work in the Himalayas	16
2.2	Medlicott's classification	18
2.3	Classification of Simla rocks by Pilgrim and West	19
2.4	Auden's sequence of rocks in Garhwal	20
6.1	Chemical composition of Ranikhet and Someshwar gneisses	99
7.1	FeO and $\text{Fe}_2^{\ 0}_3$ percentage in slates	107
7.2	Chemical composition of slates	110
7.3	Chemical composition of limestones	115
7.4	Chemical composition of sandy argillites	118
7.5	Chemical composition of chlorite schists	121