LIST OF PLATES

```

| PLATE |                                                                                  | PAGE |
|-------|----------------------------------------------------------------------------------|------|
| 1.1   | Panoramic view of Bhimtal valley                                                 | 2    |
| 4.1   | Photomicrograph of sheared granophyre                                            | 60   |
| 4.2   | Photomicrograph of sheared granitic rock                                         | 60   |
| 4.3   | Photomicrograph of sodagranite                                                   | 62   |
| 4•4   | Photomicrograph of unsheared granophyre                                          | 62   |
| 4.5   | Photomicrograph of corroded quartz phenocrysts in granophyric rock               | 63   |
| 4.6   | Field photograph of Bouldery quartzite<br>(sub-graywacke)                        | 69   |
| 4.7   | Photomicrograph of angular megaclasts<br>of quartz in an argillo-volcanic matrix | 69   |
| 4.8   | Photomicrograph of (a typical) non pebbly<br>sub-graywacke                       | 71   |
| 4.9   | Photomicrograph of sub-graywacke showing<br>secondary overgrowth of quartz       | 71   |
| 4.10  | Photomicrograph showing the texture of a mature quartzite                        | 72   |
| 4.11  | Photomicrograph showing patches of calcareous matter in purple slate             | 72   |
| 4.12  | Photomicrograph of limestone                                                     | 74   |
| 4.13  | Photomicrograph of purple slate                                                  | 74   |
| 5.1   | Field photograph of foliated and jointed traps                                   | 88   |
| 5.2   | Field photograph of a F <sub>1</sub> fold                                        | 88   |
| 5.3   | Photograph of a specimen of highly sheared and crumpled granophyre               | 95   |

,

-

- v -

• .

.

•

| PLATE |                                                                           | PAGE         |
|-------|---------------------------------------------------------------------------|--------------|
| 6.1   | Photomicrograph of a non-foliated diabase showing intersertal texture     | 112          |
| 6.2   | Photomicrograph of a diabase showing relict ophitic to subophitic texture | 114          |
| 6.3   | Photomicrograph of a diabase showing partial saussarization of felspars   | 114          |
| 6.4   | Photomicrograph of diabase showing preferred orientation of felspar laths | 116          |
| 6.5   | Photomicrograph of foliated diabase                                       | 116          |
| 6.6   | Photomicrograph of glassy variety of spilitic basalt                      | 118          |
| 6.7   | Photomicrograph of glassy spilitic basalt                                 | 118          |
| 6.8   | Photomicrograph of glassy variety of spilite                              | 1 <b>1</b> 9 |
| 6.9   | Photomicrograph of an amygdule in spilitic<br>basalt                      | 119          |
| 6.10  | Photomicrograph of spilitic basalt                                        | 121          |
| 6.11  | Photomicrograph of spilitic basalt                                        | 121          |
| 6.12  | Photomicrograph of a fine grained spilitic basalt                         | 122          |
| 6.13  | Photomicrograph of spilitic basalt                                        | 124          |
| 6.14  | Photomicrograph of spilitic basalt                                        | 124          |
| 6.15  | Photograph of a specimen of granulated variety of spilite                 | 125          |
| 6.16  | Photomicrograph of the granulated spilite                                 | 125          |
| 6.17  | Photomicrograph of scaly and platy chlorites in tuffs                     | 128          |

- vi -

| <br>vii | *** |  |  |  |
|---------|-----|--|--|--|

|       | 、                                                                       |      |
|-------|-------------------------------------------------------------------------|------|
| PLATE |                                                                         | PAGE |
| 6.18  | Photomicrograph of sheared tuff                                         | 130  |
| 6.19  | Photomicrograph of a rather rare thin section of unmetamorphosed tuff   | 132  |
| 6.20  | Photomicrograph of sheared tuff                                         | 134  |
| 6.21  | Photomicrograph of sheared tuff                                         | 134  |
| 6.22  | Photomicrograph of tuffite                                              | 136  |
| 6.23  | Photomicrograph of a typical tuffite                                    | 136  |
| 6.24  | Photomicrograph under high power of chlorite-sericite layers in tuffite | 137  |
| 6.25  | Photomicrograph of tuffite                                              | 137  |
| 6.26  | Photomicrograph of an amygdule in spilite                               | 143  |

.

x

.