

Fig. 1. Magnified thin section of quartzite in polarized light.

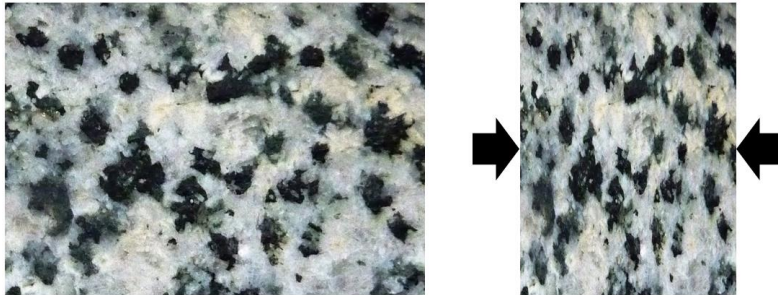


Fig. 2. The textural effects of squeezing during metamorphism.

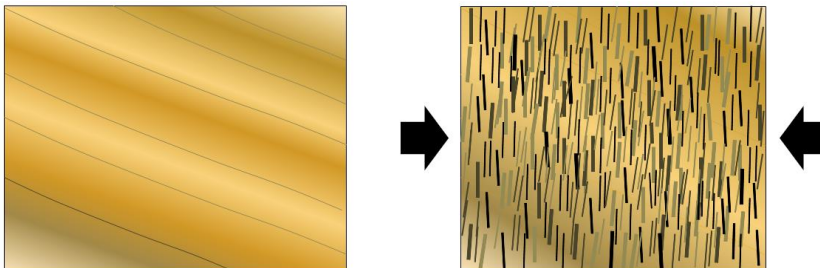


Fig. 3. The textural effects of squeezing and aligned mineral growth during metamorphism. The left-hand diagram represents shale with bedding in the direction shown. The right-hand diagram represents schist (derived from that shale), with the mica crystals orientated perpendicular to the main stress direction and the original bedding no longer easily visible.



Fig. 4. A slate boulder on the side of Mt. Wapta in the Rockies near Field, BC. Bedding is visible as light and dark bands sloping steeply to the right. Slaty cleavage is evident from the way the rock has broken and also from lines of weakness that same trend.



Fig. 5. *Examples of foliated metamorphic rocks [a, b, and d]*



Fig. 6. *Migmatite*



Fig. 7. *Marble with visible calcite crystals (left) and an outcrop of banded marble (right)*



Fig. 8. *Quartzite from the Rocky Mountains*



Fig. 9. *Hornfels from the Novosibirsk region of Russia. The dark and light bands are bedding. The rock has been recrystallized during contact metamorphism and does not display foliation.*

Table 1. A rough guide to the types of metamorphic rocks that form from different parent rocks at different grades of regional metamorphism

| | Low Grade | Medium Grade | High Grade | |
|---------------------------------------|------------------|---------------------|-------------------|-------------------|
| Very Low Grade | | | | |
| Approximate Temperature Ranges | | | | |
| Parent Rock | 150-300°C | 300-450°C | 450-550°C | Above 550°C |
| Mudrock | slate | phyllite | schist | gneiss |
| Granite | no change | no change | no change | granite gneiss |
| Basalt | chlorite schist | chlorite schist | amphibolite | amphibolite |
| Sandstone | no change | little change | quartzite | quartzite |
| Limestone | little change | marble | marble | marble |