



BRIEF BACKGROUNDS

GIRRAWEEEN NATIONAL PARK

The Girraween area, and in fact most of the district known as the Granite Belt, is formed on the northern end of a great mass of granitic rocks, stretching from Stanthorpe south to Armidale in New South Wales, which is termed the New England Batholith. Various types of granite of slightly different ages are present; that around Girraween is called the Stanthorpe Granite.

This was intruded, or squeezed, into older surrounding rocks as a molten mass about 240 million years ago in the Triassic period. Still deep below the surface, it cooled very slowly, allowing its minerals to solidify and grow into large crystals. Since that time, erosion has gradually removed the vast quantities of rock once above its roof, exposing the granite mass itself to the weather and erosion.

As erosion has removed the great weight of rock above the granite, stresses were released, allowing the granite to expand and crack along fractures (joints).

In the granite itself, weathering and decomposition of the rock proceeds down

joints in the rock mass, leaving behind rounded boulders or tors. Where fractures are common, the rock is eroded readily to form low valleys with only small boulders; where fractures are sparse, large dome-like masses of rock remain as resistant pinnacles above the rest of the gradually eroding landscape.

Thus the Pyramids at Girraween are not themselves a batholith; they are simply a "small" resistant part of a much larger batholith that is undergoing erosion at varying rates depending on local fracture patterns.

In detail the rock shows the four main minerals of granites (which are complex silicates); clear quartz, pink and white feldspars, and black flakes of biotite mica. In places narrow veins or dykes of cream or light pink finer-grained rock cut the granite. This material could be called aplite and is a result of the last remnants of molten material being squeezed along fractures just before the whole mass finally solidified.