**Cantilevered Roof**

The roofs of the Great Keep and Northwest Tower are held up by a series of cantilevers, which evenly bear the weight of the timber and tiles. The internal structures of these roofs are visible from the top floors of each building.

Cantilever technology was originally used in temple architecture beginning in the Kamakura period (1185–1333). The underlying principle is that of a lever. Here, the 20 massive timbers that support the roof rest on secondary pieces of wood that cushion them against the horizontal timbers of the keep wall (called “purlins”). These horizontal timbers act as fulcrums. The weight of the crossbeams below the roof presses down on the long ends of the beams, which in turn pushes their opposite ends upward, supporting the weight of the eaves. The opposing forces create a stable structure in which the weight of the tiles is distributed along the length of the timbers.